Univa	ORATION	
Kemington Kand	DIVISION OF SPERRY RAND CORPORATION	PHIL ADEI PHIA PA

0000		FLO	A AAAAA ARREMALER MACE I
0001		720	1. QADAAD ASSEMBLER PASS 1.
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0003			X C. COPY ROUTINE
0004			X G. GET NEXT CARD IMAGE ROUTINE
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0009			X A PREVIOUS TAPE.
0010			X THE SHOW BEGINS AT ROUTINE I.
0011			X
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0019			X 5 TAPE WRITE ERROR
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0018	4	88AH NEW1 00001	00000
0019		INIT EQU 8999	G START
0020		R0000 BLR 4200	4419 G TAPE INPUT AREA
0021		00000 BLR 4000	4199 G CARO READ AREA
0022		F0000 COR 0200	G FIRST STATION AREA
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0026		U0000 COR 0080	
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0030		G0000 COR 0020	
0031		HHH C	G CURRENT INPUT CARD
0032	8622 888 0 00 8661 8642	U0000 THE 00039	UOOZO G CARD INPUT BUFFER LINKS
0033	8642 888 0 00 8681 8662	U0020 JMP U0059	UO040
0034	8662 898 0 00 8701 8682	U0040 JMP U0079	U0060
0035	8682 888 0 00 8721 8702	U0060 JMP V0019	V0000
0036	8702 888 0 00 8741 8722	V0000 JMP V0039	V0020
0037	8722 B88 0 00 B641 B622		
0038	8742 888 0 30 8014 8802		U0000
0039	8743 88B 0 30 8026 8802	10001 LDL F0013 10002 LDL F0025	TBIR G IST STATION UNLOAD CONTROL TBIR
0040	8744 BSB 0 30 B038 B802		
0041			TBIR
0042		-	TBIR
0043		10005 LDL F0061	TBIR
0044		10006 LDL F0073	TBIR
0045		10007 LDL F0085	TBIR
0046		10008 LDL F0097	TBIR
0047		10009 LDL F0018	TBIR
0048	and the same of th	10010 LDL F0030	TBIR
40 40	8752 888 0 30 8043 8802	10011 LDL F0042	TBIR

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0049	8753	888 0 30	8055	3802	10012	LDL	F0054	TBIR		
0050	8754	888 0 30		8802	10013	LDL	F0066	TBIR		
0051	8755	888 0 30	_	8802	10014	LDL	F0078	TBIR		
0052	8756	888 0 30	-	8802	10015	LDL	F0090	TBIR		
0053	8757	888 0 30		8802	10016	LDL	F0111	TBIR		
0054	8762	888 0 -25		0000	J0001	LDA	C0118	RX	9	2ND STATION UNLOAD CONTROL
0055	8763	888 0 25		0000	J0002	LDA	C0130	RX	•	THE STATE OF THE S
0056	8764	858 0 25		0000	J0003	LDA	C0142	RX		
0057	8765	855 0 25		0000	J0004	LDA	C0154	RX		
0058	8766	888 0 25		0000	J0005	LDA	C0166	RX		
0059	8767	888 0 25		0000	J0006	LDA	C0178	RX		
0060	8768	888 0 25		0000	J0007	LDA	C0190	RX		
0061	8769	858 0 25		0000	J0008	LDA	C0006	RX		· ·
0062	8770	888 Q 25		000C	J0009	LDA	C0123	RX		
0063	8771	888 0 25		0000	70010	LDA	CO135	RX		
0064	8772	888 Q 25		0000	J0011	LDA	C0147	RX	5	
0065	8773	888 0 25		0000	J0012	LDA	CO159	RX	1	
0066	8774	888 0 25		0000	70013	LDA	C0171	RX	į	
0067	8775	888 0 25		000C	J0014	LDA	C0183	RX		
0068	8776	888 0 25		0000	J0015	LDA	CQ195	RX	ž.	
0069	8777	888 0 25		0000	J0016	LDA	C0011	RX		
0070	8999	858 0 25		BOOA	INIT	LDA	WROF	,,,,,	I.	INITIALIZE.
0071	4	200 4 20	2003	400A	*14*1	Con			11.	
0072	BOOA	888 0 67	8804	BOLA		HLT	PASS2		MI	HALT. IF M RESTART GO TOMPAS2 (W6).
0073	BOLA	888 0 60		802A		STA	CKWR		C:	HWELL IN HEALTH AND LOUR HORE (HOLE
0074	802A	888 0 F2		BOJA		TRW	0300		12.	SET STARTING VALUES
0075	BOJA	888 0 26		8806		CLA	0300			SET LINE COUNT TO D
0076	8806	888 0 60		304A		STA	NUM			SET STACKER SELECT COUNT TO D
0077	804A	888 0 60		805A		STA	SSCT			SET STACKER SELECT TO POCKET O
0078	BOSA	55B 0 25		8810		LDA	330.	9F		RESET OUTPUT BUFFER
0079	8809	858 1 00		0000		CONI	00005	00000		WESEL SOLLOL SOLLEW
0080	8810	888 0 60		BOGA	9	STA	55#	••••		
0081	BOGA	888 0 25		8813	₹.	LDA	33#	2F		
0082	8812	888 0 00		8401		JMP	80019	B0000		
0083	8813	888 0 60		807A	2	STA	WR2	D. 0.0.0		
0084	807A	898 0 25		8816	_	LDA		9F		
0085	8815	888 1 00		0010			00000	00010		SET CURRENT TAPE INPUT LINE COUNT TO -10
0086	8816	888 0 60		BOSA	9	STA	R0001	••••		CLEAR CARD INPUT SUFFERS
0087	AGOS	888 0 25		BOSA		LDA	U0000		13.	THEN GO
0088	BOOA	888 0 60		BIOA		STA	KO		•••	TO MASTER CONTROLHMI.
0089	BIOA	888 0 60		8819		STA	K1	MASTR		
0090	8820	888 0 60		BILA	U1	STA	UEX		U.	UNLOAD SECTION
0091	BILA	888 0 96	_	812A		HBU	00001			UNLOAD BUFFER
0092	BIZA	888 0 25	-	8823		LDA		9F	4.5	FILL 2ND STATION AREA
0093	8822	888 0 00		8201		JMP	C0199	c0000		. The Manager of the State of t
0094	8823	888 0 80		8824	9	TDC	00000	U2		
0095	8824	888 0 30		8826	Ú2	LDL	2000	9F	112 -	CHECK 2ND
0096	8825	888 0 HH		HHHH		CON	HHHHH	ннннн	₩ 1	STATION EMPTY.
0097	8826	888 0 25		813A	9	LDA	C0006	111 9 11 11	FMP	TIF EMPTY. GO TONUS.
0098	BIJA	898 0 82		9888	•	TEQ	U5	U3	FUL	
	~ **	A A#		****		, m. w	99	~	- 06	~

0099	5828	898 0	05	8829	BIHA	U3	LDX	85		
0100	B14A	355 1		0016	8830		LIRJ	0016	9F	
0101	8830	888 1		6741	3741	9	JMP3	10000	71	
0102	8802	H88 1		8761	8761	TBIR	JMPJ	10000		
0103	8829	888 0		8831	8832	8	TEQ	20000	U6	
0104	8831	888 1	-	9999	815A	9	IIR3	9999	UÐ	
0105	815A	858 0	_	8833	8833			7777		
0106	8833	888 0		8834	8830		CLL TEQ	1 1	AB	
0107	8834	888 0	-	0600	816V	U4	IIR	04 0600	98	
0108	BIGA	888 0		BIGA	817A	04	ATL	0000		
0109	817A	888 0	-	0001	BIBA		IIR	0001		
0110	SIBA	888 0		8808	819A		ADD	SSCT		
0111	BISA	888 0		808	BZÓA		STA	SSCT		
0112	820A	888 0		8835	8836		TEO	550,	2F	
0113	8835	888 0	26	8837	8837		CLA		•	
0114	8837	898 0		8808	821A		STA	SSCT		
0115	BZIA	888 0		8811	822A		SUB	55#		
0116	BZZA	888 0	60	8811	8838		STA	SSW	3F	
0117	8836	888 0		8811	828	2	LDA	55W	3F	
0118	8638	888 O	70	8839	AOOO	3	ADD		RA	
0119	8839	888 O	47	0050	4999		HSS	0050	4999	
0120	4999	888 0	25	8207	823A	4999	LDA	C0006	4000	
0121	823A	888 0	60	8621	324A		STA	E0019		
0122	824A	888 0		8212	825A			C0011		
0123	825A	888 0	60	8620	326A			E0018		
0124	B26A	888 0	25	8391	827A	•		C0190		
0125	827A	888 0	60	8619	828A			E0017		
0126	828A	888 0	25	8396	829A			CO195		
0127	829A	868 0	60	8618	AOEB			E0016		
0128	BJOA	888 0	25	8379	831A			C0178		
0129	BJIA	888 0	60	8617	832A			E0015		
0130	832A	988 0	25	8384	833A			C0183		
0131	BJJA	888 0	60	8616	834A			E0014		
0132	B34A	888 0	25	8367	835A			C0166		
0133	B35A	888 0		8615	836A			E0013		
0134	BJ6A	888 0		8372	837A			C0171		
0135	837A		60	8614	ASCE			E0012		
0136	BJBA	885 0		8355	939A			C0154		
0137	BJ9A	888 0		8840	8841			9F	8F	
0138	8840	98B 0		HHHH	HHHH	9	CON	ОНННН	ННННН	
0139	3841	888 0		8613	BHOA	8		E0011		
0140	840A	888 0	25	8360	841A			C0159		
0141	841A	888 0	-	8840	842A			98		
0142	842A	888 0	-	8615	843A			E0010		
0143	843A	898 0	05	8355	844A			CO154		
0144	844A	888 0	25	8343	845A			C0142		
0145	845A	888 0		0900	946A		SHR	0900		
0146	846A	888 0		000C	847A		LDA	RX		
0147	847A	888 C		0100	848A		SHL	0100		
0148	848A	688 0	60	B609	849A		STA	E0007		

U3. COMPARE 2ND STATION
WITH PREVIOUS 1ST STATION FOR CHECK.
ERRIGO TOMUG IF COMPARISON FAILS.
OK:

U4. CHECK FOR 600 CARDS
IF SO SWAP CARD POCKETS O AND 1

G WATCH OUT FOR UNDIGIT GARBLE
US. FILL INTERNAL BUFFER
EDIT 2ND STATION TO E REGION
SEE GADAAD PASS 2. SECTION E FOR OUTPUT
FORMAT

•	0149	849A	888	0 05	8360	950A		LOX	C0159				
	0150	BSOA	858	0 25	8348	851A		LDA	C0147				
	0151	851A	888	0 32	0900	852A		SHR	0900				
	0152	852A	888	0 25	0000	853A		LDA	RX			·	
	0153	853A		0 37	0100	854A		SHL	0100				
	0154	854A	888		8608	855A		STA	E0006				
	0155	855A		0 05	8343	856A		LDX	C0142				
	0156	856A	888		8331	857A		LDA	C0130				
	0157	857A		0 32	0800	858A		SHR	0800				
	0158	858A		0 25	0000	859A		LDA	RX				
	0159	859A		0 37	0100	860A		SHL	0100				
1	0160	860A	888	0 60	8607	861A		STA	E0005				
	0161	BOLA	888	0 05	8348	862A		LDX	CO147				
	0162	862A	888	0 25	8336	863A		LDA	C0135				
	0163	863A	898	0 32	0800	364A		SHR	0800				
	0164	864A	888	0 25	0000	865A		LDA	RX				
	0165	865A		0 37	0100	866A		SHL	0100				
	0166	866A	888	0 60	8606	367A		STA	E0004				
	0167	867A	888	0 25	8319	868A		LDA	C0118				
	0168	868A	888	0 35	8842	8843		ERS	9F	8F			
	0169	8842		O HH	HHHH	НННО	9	CON	HHHHH	HHHHO			
	0170	8843		0 60	8605	869A	8	STA	E0003				
	0171	869A	888		8324	870A		LDA	C0123				
	0172	870A		0 35	8842	871A		ERS	98				
	0173	871A		0 60	8604	872A		STA	E0002				
	0174	972A	888	0 06	8844	8844		CLX					
	0175	8844		0 60	8603	873A		STA	E0001				
	0176	873A		0 05	8331	874A		LDX	C0130				
	0177	874A		0 25	8319	875A		LDA	C0118				
	0178	875A		0 32	0700	876A		SHR	0700				
	0179	876A		0 25	0000	877A		LDA	RX				
	0180	877A		0 37	0600	878A		SHL	0600				
	0181	878A		0 60	B611	879A		STA	E0009				
	0182	879A		0 05	8336	SSCA		LDX	CO135				
	0183	AOBE		0 25	8324	381A		LDA	C0123				
	0184	BBIA		0 32	0700	882A		SHR	0700				
	0185	882A		0 25	0000	BBJA		LDA	RX				
	0186	ACBB		0 37	0600	384A		SHL	0600	-1.45		REGION E TO NEXT	
	0187 0188	384A		0 60	8610	8945	B: CT	STA	E0008	BLST	FREE	CARD INPUT BUFFER	
	0189	8845 8846		0 25	8846	3847	BLST	LDA	FAA10	9F			
	0190			0 00	8621	8602	•	JMP	E0019	E0000			
	0191	8847 885A		0 B8	4400	885A	9	TCD	R0200				
	0192	886A			8818	886A		LDA	K1	AF			
	0193	8848		0 70	8848	8849 0001		ADD	00000	9F			
	0194	8849		0 80	4401		9	CON	00000	00001			
	0195	887A		0 25	8818	887A 888A	•	TDC	R0201				
	0196	ASSB		0 35	8850	8851		LDA	K1	46			
	0197	8850		0 00	0000	HHHH		ERS CON	00000	9F OHHHH			
	0198	8851		0 37	0400	889A	9	SHL	0400	∪n nnn	TUES	CYCLE EMPTY BUFFER CO	NTON ITHE
				7 31	V-VV	WG 7M	•	3rt	0400		i Lievi	CICLE EMPIT BUPPER CO	MIGOR FINK KT

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CONSID	COPY, US	N PAR	MISSION	ERRY
Z,	ODUCE.	OLE OR	TEN PER	TO 5P
1	REPR	2	N. N.	SAME

0199	A988	888 0 2	0 8852	QOOA		BUF		RA		
0200	8852	898 0 2				LDA	0000	NA.		
0201	890A	888 0 6		8827		STA	K1	U5		
0202	8827	888 0 2			U5	LDA	W.T.	9F	. 14	HALL AT TAN .
0203	8853	888 0 0				JMP	F0199	F0000	06+	HOVE STATION 1
0204	8854	888 0 8			9					TO 1ST STATION AREA. THENHEXIT.
0205	8832	888 0 4				TDC	D0000	UEX		
0206	891A	688 0 6		8821	U6	HSS	0200		U7.	SELECT STACKER 2
0207		5.5 4 0	, 0001	GOTT		HLT	0001	UEX		BEGINNING WITH BAD COMPARISON CARD. HALT.
0208	8855	888 0 4	2 8820	892A	6 •				X	THENNEXIT.
0209	892A	888 0 2			61	HBT	Uı		G.	FETCH NEXT CARD SECTION
0210	8856	388 0 6		3856		CLA	_		G1.	RESET TIMER
0211	8858	888 0 7		8858		STA	T.	62		FOR OFF NORMAL
0212	8859	888 0 4		3860	62	HCC		-63	G2.	TRY TO FEED A CARD
0213	8860	888 0 2		8858		HBT	U1	62	OFF	IF OFF NORMAL GO TORGS.
0214	893A			893A	-63	LOA	KO		ON:	
0215	894A	898 Q 30 888 Q 88		894A		LDL	K1		G3.	CHECK BUFFERS.
0216				8863		TEQ		G4		IF BUFFERS ARE EMPTY GO TONG2
0217	8862	988 0 42		3858	_	HBT	UI	G2		AND FEED ANOTHER CARD.
0218	8863	355 0 B		895A	64	TCD	R0200		ONE	I
0219	895A	888 0 3		8865		ERS		9F		MOVE NEXT IMAGE
	8864	888 0 00		HHHH		CON	00000	ОНННН		TO AREA G.
0220	8865	898 0 37		896A	9	SHL	0400			A MINER MA
0221	896A	888 0 20		AOOD		SUF		RA		
0222	8866	898 0 29		897A		LDA	0000			
0223	897A	888 0 60		398A		STA	KO			THEN CYCLE FULL BUFFER CONTROL LINK KO.
0224	898A	888 0 25		3868		LDA		9F		AFTER THATFEXIT.
0225	8867	888 0 00		8782		JMP	G0019	60000		AF 164 TARTABALL
0226	8868	898 0 80		399A	9	TDC	R0200	4000		
0227	899A	999 0 42		800F		HBT	UI			
0228	BOOF	888 0 04		0000		JMP1	0000			
0229	8861	858 0 07	0150	801F	4G3	IIR	0150		65.	STEP TIMER
0230	HOIF	888 0 77	801F	802F		ATL			450	
0231	802F	888 0 07		803F		IIR	0001		150	STEP THE OFF NORMAL TIMER.
0232	803F	888 0 70	8857	804F		ADD	T		150	IF TOO LONG STOP.
0233	804F	888 0 60		305F		STA	Ť		OK :	THEN TRY AGAIN BY GOING TORGI.
0234	805F	888 0 05	0000	306F		LDX	0000		3	OTHERWISE GO TOMES AND EMPTY A BUFFER.
0235	806F	888 0 82	8869	8860		TEO		-G3	13	SYNCHRONIZE LOOP WITH DRUM
0236	3869	888 0 67	0002	8855		HLT	0002	GI		•
0237	8870	888 0 07	0150	807F	STOP	IIR	0150	U •	٠.	STOP ROUTINE
0238	807F	855 0 77	807F	808F		ATL				
0239	308F	888 0 26		8871		CLA	2F		21+	SHUT DOWN READER
0240	8871	888 0 88	0000	809F	2	TEO1	0000			COUNT TO 150 TO MAKE SURE ALL COMMITTED
0241	BOSF	888 0 42		BIOF	, -	HBT	1F			CARDS HAVE BEEN READ.
0242	BIOF	888 0 05		811F		LDX	0000			THEN#EXIT.
0243	BILF	888 0 70		8871		ADD	0000	3 9	G	SYNCHRONIZE LOOP WITH DRUM
0244	8873	888 0 00		9000		CON	00000	28		
0245	8872	888 0 42		8870	1			10000		
0246	8819	889 0 08		8855	MASTR		MAST1	STOP	-	MAGERIA PROPERTY AND
0247	8874	888 0 25		812F	MASTI			G1		MASTER PROCESS CONTROL
0248	812F	898 0 30		3876	MAGIL		60008	.=	MI.	FETCH A CARD
-		4 30	w913	9a/9		LDL		2F		BY GOING TO SECTION G.

0249	2075	500 A 11	2000	***		-64	en that I's	00000	
	8875	888 0 11	2000	0000	_	ZON	FIN 0	00000	
0250	3676	888 0 82	8877	8878	2	TEO		3F	MZ. CHECK FOR FIN
0251	8877	888 0 25	8791	813F		LDA	60009		FINITE SO SET LINE NUMBER TO SENTINEL
0252	813F	888 0 30	8879	8880		LDL		2F	AND WRITE TAPE ATAWI.
0253	8879	888 0 69	5800	0000		NUM	FIN 0	00000	NO:
0254	8880	888 0 82	8881	3882	2	TEQ	L'THE	4F	.40
					4				
0255	8881	888 0 25	8883	8884		LDA		2F	
0256	3883	888 0 99	9999	9999		CON	99999	99999	
0257	8884	888 0 60	8807	8885	2	STA	NUM	WRITE	
0258	8878	888 0 30	B886	3887	3	LDL		2F	M3. CHECK FOR CPY
0259	6886	888 0 12	3000	9000		ZON	CPY O	00000	CPY: IF SO JUMP TO COPY ROUTINERCL.
0260	8887	888 0 82	8888	8882	2	TEQ		4F	NO :
0261	8888	888 0 25	8791	814F	_	LDA	G0009	4.	,
0262	814F	888 0 30	8889	8890			90007	2F	
0263						LDL	A		
	8889	888 0 37	8800	0000	•	NUM	CPY O	00000	
0264	8890	858 0 82	8891	8882	2	TEO	COPY	46	
0265	3882	888 0 OB	8819	8885	4	FIRE	MASTR	WRITE	M4. WRITE LINE
0266									X THIS IS A CARD TO BE PROCESSED BY PASS 2 SO
0267									X WE WRITE IT OUT, USING ROUTINE W. AND GO
0268									X BACK TOMMI.
0269	6891	856 0 08	8892	8870	COPY	LIRI	55	STOP	C. COPY OLD TAPE
0270	8892	888 1 02	8893	8805	5	LIR2		CKWR	C1. STOP THE READER
0271	8893	888 0 25	8787					CIVELL	
0272				315F	6	LDA	G0005		ROUTINE S.
	815F	888 0 05	8769	816F		LDX	60007		C2. CHECK PREV WRITE
0273	816F	888 0 32	0500	817F		SHR	0500		AT #50.
0274	817F	888 0 60	8894	818F		STA	FRST		C3. SET UP FIRST.LAST
0275	818F	858 0 65	6895	3896		STX	LST	-CP	LINE NUMBERS FOR OLD TAPE.
0276	8896	888 0 30	4201	819F	-CP	LDL	R0001		C4. FIRST:CURRENT
0277	819F	888 0 25	8894	820#		LDA	FRST		LESSIF FIRST IS LESS THAN CURRENT GO TONCO.
0278	BZOF	888 0 35	8898	3399		ERS		2F	EQL IF FIRST EQUALS CURRENT GO TO#C8.
0279	8898	888 0 00	0000	ннно		CON	00000	ОНННО	GTR
0280	8899	888 0 82	8900	8901	2	TEQ	3F	aF	WITH
0281	8901	888 0 87	8902	8903	8			4F	
0282						TGR	9F	45	AR MAN MAN PANHANA
	8902	888 0 G2	0200	821F	9	TRD	0200	•	C5. READ TAPE FORWARD
0283	821F	858 0 C7	8902	822F		TBT	98		OK: THEN GO BACK TONC4.
0284	822F	898 0 C7	B904	322F		TBT		*	BAD:
0285	8904	888 0 26	B905	8905		CLA			IF ERROR ON TAPE READ! HOWEVER: HALT AND
0286	8905	888 0 82	8906	3897		TEO		&CP	REVERSE DIRECTION
0287	8906	888 0 F6	4200	3896		TBU	R0000	-CP	Company of the compan
0288	8897	888 0 67	0006	8903	&CP	HLT	0006	4F	
- 0289	8903	888 0 G2	0205	823F	4	TRO	0205	41	C6. READ TAPE BACKWARD
0290	823F	888 0 C7	8907	823F	•	TBT	0	*	BADIIF ERROR REVERSE DIRECTION ATMCS.
0291	8907	888 0 26	8908	3908		CLA		*	
0292	8908	388 0 82	8909					AFME	OK 8
0293	8909			8911		TEO	20000	&CPP	
		888 0 F6	4200	3910		TBU	R0000	-CPP	
0294	8910	888 0 25	8894	824F	-CPP	LDA	FRST		C7. RECOMPARE
0295	824F	888 0 35	8912	8913		ERS		2F	LESSIF FIRST IS STILL LESS THAN CURRENT. GO TOMCO
0296	8915	888 0 00	0000	HHHO		CON	00000	OHHHO	EQL IF THEY ARE EQUAL. REREAD FORWARD ATMCS.
0297	8913	888 0 30	4343	325F	2	LOL	R0143		GTR IF GREATER. WE ALSO GO TONCS (PROBABLY A BAU
0298	-				_		.,,,,,,		X MACHINE ERROR)
									A MANUTHE EUNAN

0299	825F			82	8902	8901		TEQ	98	88
0300	8911			67	0006	8902	&CPP	HLT	0006	98
0301	8900		0	25	8894	826F	3	LDA	FRST	
0302	826F			35	8914	8915		ERS		2F
0303	3914		0	00	0000	000H		CON	00000	0000H
0304	8915		0	37	0500	827F	2	SHL	0500	
0305	827F		0	70	OOOA	828F		ADD	RA	
0306	828F	888	0	70	8916	8917		ADD	MOV	1F
0307	9916		0	80	4200	8918	MOV	TDC	R0000	WRIT2
0308	8917		0	60	8919	829F	1	STA	WRITI	
0309	829F		0	25	8920	8919		LDA		WRIT1
0310	8920		0	00	8801	8782		JMP	G0019	G0000
0311	8918	888	0	08	8921	8885	WRIT2	LIRI	SF	WRITE
0312				_						
0313	8921		0	25	8894	830F	5	LDA	FRST	
0314	830F		0	30	8895	331F		LDL	LST	
0315	831F	888	0	70	8922	832F		ADD	ONE	
0316										
0317	832F			87	8819	833F		TGR	MASTR	
0318	833F			60	8894	8923	_	STA	FRST	5F
0319	8923		0	25	8919	834F	5	LDA	WRITL	
0320	834F		0	70	8924	835F		ADD	M20	
0321	835F		0	30	8925	8926		LDL		2F
0322	8925			BO	4400	8918		TDC	R0200	WRIT2
0323	8926			82	8902	8917	2	TEO	98	1B
0324	8924			00	0020	0000	M20	CON		00000
0325	8922			00	0000	0001	ONE	CON		00001
0326	8885			42		836F	WRITE	HBT	Ul	
0327	BJ6F			25		837F		LDA	NUM	
0328	837F			60		838F		STA	G0001	
0329	BJBF			31		8927		CLL		
0330	8927			50		839F		STL	60000	
0331	839F			70		8928		ADD	- / (-WR
0332	8928			60	B807	8930	-WR	STA	NUM	WR4
0333	8930			25	8931	8932	WR4	LDA		1F
0334	8931			00	8801	8782		JMP	60019	60000
0335	8932			88	4000	940F	1	TCD	D0000	
0336	840F	888			8814	841F		LDA	WR2	
0337	841F	888		30		8934	•	LDL	9#	1F
0338 0339	8933	888			8600	3581	9	JMP		80180
0340	8934			80	4000	842F	1	TDC	D0000	
	842F			82	8935	843F		TEO	1F	
0341 0342	843F	-		70	8936	844F		ADD	THTH	
	844F	388		60	8814	845F		STA	WR2	
0343	845F	888		42	8820	846F		HBT	U1	
0344 0345	846F	888		04	0000	0000	•	JMP1	0000	
0346	8935	858		25	8937	8938	1	LDA	8F	1F
0346 0347	8937			00	8420	8401	3	JMP		80000
	8938	888		60	8814	847F	1	STA	WR2	
0348	847F	888	U	44	8820	848F		HBT	U1	

CS. MOVE TO OUTPUT.

MOVE A RECORD FROM THE OLD TAPE TO
WORKING STORAGE (REGION G).

C9. THEN WRITE IT OUT

X THE OLD TAPE IS NOW POSITIONED TO WRITE
PROPERLY. USE SECTION W TO WRITE OUT A LINE.
INCREMENT 'FRST' AND CHECK FOR END.

DONEIF DONE WITH THIS COPY CARD. GO BACK TO MASTER

X CONTROL#MI

MORE
C10.CHECK INPUT BUFFER
EMPTIF EXHAUSTED READ ANOTHER RECORD ATACS.

OK OTHERWISE GO BACK TOWCS.

W. TAPE WRITE CONTROL SECTION.
W1. SET LINE COUNT.
AND INCREMENT
FIN: IF SENTINEL JUMP TOWW4.
OK:
W2. PLACE IN BUFFER
THEN CHECK FOR BUFFER FULL.
OK: IF NOT. #EXIT.
FULL

0349	848F	888 0 25	8401	849F		LDA 80000		
0350	849F	888 0 60	8601	850F		STA 80200		
0351	850F	888 1 02	8939	3805		LIR2 5F	CKNR	W3. CHECK PREV WRITE
0352	8936	855 0 00	0020	0020	TWTW	CON 00002	00020	AT #50.
0353	8939	888 0 C6	8402	8940	5	TBL 80001	1F	LOAD THE BUFFER. WRITE. AND SET THE
0354	8940	888 0 H2	0300	851F	1	TWR 0300		CHECKING SWITCH ON.
0355	851F	888 0 C2	8941	3942		TST	7F	THENSEXIT.
0356	8941	888 0 42	8820	8940		HBT U1	18	
0357	8942	888 0 25	8943	852F	7	LDA WRON		
0358	852F	888 0 60	8805	853F		STA CKWR		
0359	853F	888 0 04	0000	0000		JMP1 0000		
0360	8929	888 0 08	8944	8930	AWR	LIRI	WR4	W4. WRITE SENTINEL.
0361	8944	888 0 25	8814	354F		LDA WR2		CHECK FOR END OF TAPE RECORD.
0362	854F	888 0 30	8937	855F		LDL 88		NOT IF NOT RETURN TOWN 4. WRITING SENTINELS UNTIL
0363								X A TAPE RECORD IS DUMPED OUT.
0364	855F	888 0 82	8945	8929		TEQ	& WR	YESI
0365	8945	888 1 02	8946	8805	_	LIR2 5F	CKWR	WS. CLEAN UP.
0366	8946	888 0 08	8947	8970	5	LIRI SF	STOP	CHECK THE WRITE. USE W50.
0367	8947	888 0 C6	8402	3948	5	TBL 80001	5F	warm and the address of add
0368	8948	888 0 H2	0300	856F	5	TWR 0300		WRITE ANOTHER SENTINEL BLOCK.
0369	856F	888 0 C2	8948	857F		TST 58	84083	
0370	857F	888 0 F2	0200	3804		TRW 0200	PASS2	MI STATE
0371	8804	888 0 F2	0300	858F	PASS2	ODEO WAT		W6. END.
0372	858F	35B 0 G2	0400	359F		TRD 0400		REWIND TAPES. READ#PASS2 AND EXECUTE IT.
0373	859F	888 0 F6	B000	8000		TBU 8000	8000	Web
0374	8803	888 1 00	0000	0000	WROF	JMP2 0000		W50. PREVIOUS WRITE
0375	8943	888 0 C7	B949	860F	WRON	TBT 1F		SWITCH TESTS EXISTENCE OF PREVIOUS WRITE.
0376 0377	860F	888 0 42	8820	8943		HBT U1	WRON	NONEIF NONEMEXIT.
0378	8949	888 0 26	8950	8950	1	CLA		WRIT
0379	8950	858 0 82	8951	861F		TEQ 3F		WS1.WAIT READY.
0380	861F	898 0 OG	0000	362F		IIR1 0000	2F	WHEN TAPE IS FINISHED CHECK FOR ERRORS.
0381	862F 8952	888 0 20	8952	8953		BUF		NONEIF OK SET SWITCH OFF AND#EXIT.
0382			0000	8954	•	LIR1 0000	CKWI	ERR IF ERROR STOP THE READER (SECTION S).
0383	8953 863F	888 0 60	8955 8955	863F 8870	2	STA CKW2	STOP	HALT. AND THEN#EXIT.
0384	8954	888 0 67	0005	8803	CKW1	LIR1 CKW2 HLT 0005	WROF	
0385	8951	888 0 25	8803	864F	3		HINDE	
0386	864F	388 0 60	8805	3803	,	LDA WROF STA CKWR	WROF	
- 0387	004F	202 0 00	0903	9903			HINGE	
4741						END INIT		

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0000								FLO			1.	GADAAD ASSEMBLER PASS 1.
0001												
0018							BBAH	NEAT		00000		
0019			* 1				INIT	EQU	5999			START
0020							R0000	BLR	4200	4419		TAPE INPUT AREA
0021							00000	BLR	4000	4199		CARD READ AREA
0022							F0000	COR	0200			FIRST STATION AREA
0023							C0000	COR	0200			2ND STATION AREA
0024							80000	COR	0201			TAPE OUTPUT AREA
0025							E0000	COR	0020			CARD EDIT TARGET AREA
0026							U0000	COR	0080			CARD SUFFERS
0027							V0000	COR	0040			CARD BUFFERS
0028							10001	COR	0020			IST STATION UNLOAD TABLE
0029							J0001	COR	0020			2ND STATION UNLOAD TABLE
0030							60000	COR	0020			CURRENT INPUT CARD
0031								HHH		C		
0032	8622	888	0 0	0	8661	3642	U0000	JMP	U0039	00020		CARD INPUT BUFFER LINKS
CE00	8642	888	0 0	0	8661	8662	UQ020	JMP	U0059	U0040		
0034	B662	888	0 0	0	B701	8682	U0040	JMP	U0079	U0060		
0035	8682	888			8721	3702	U0060	JMP	V0019	V0000		
0036	8702	688	0 0	0 1	B741	8722	V0000	JMP	V0039	V0020		
0037	8722	888	0 0	0	9641	3622	V0020	JMP	U0019	U0000		
0038	8742	858	0 3	0	8014	8802	10001	LDL	F0013	TBIR		IST STATION UNLOAD CONTROL
0039	8743	858	0 3	0	8026	3802	10002	LOL	F0025	TBIR		
0040	8744	898	0 3	0	8038	8802	10003	LDL	F0037	TBIR		
0041	8745	656	0 3	0	B050	8802	10004	LDL	F0049	TBIR		
0042	8746	888	0 3	0	B062	8802	10005	LDL	F0061	TBIR		
0043	8747	888	0 3	0	8074	8802	10006	LDL	F0073	TBIR		
0044	8748	888	0 3	0	BQ86	8802	10007	LDL	F0085	TBIR		
0045	8749	888	0 3	0 1	8098	8802	10008	LDL	F0097	TBIR		
0046	8750	888			8019	3802	10009	LDL	F0018	TBIR		
0047	8751	838	0 3	0 1	B031	8802	10010	LDL	F0030	TBIR		
0048	8752	888			8043	8802	10011	LDL	F0042	TBIR		
0049	8753	898			8055	8802	10012	LDL	F0054	TBIR		
0050	8754	888			B 067	3802	10013	LDL	F0066	TBIR		
0051	8755	888			8079	8802	10014	LDL	F0078	TEIR		
0052	8756	888			B091	8802	10015	LDL	F0090	TBIR		
0053	8757	888			8112	8802	10016	LDL	F0111	TBIR		
0054	8762	888			8319	000C	10001	LDA	C0118	RX		2ND STATION UNLOAD CONTROL
0055	8763	888			B 331	000C	J0002	LDA	C0130	RX		
0056	8764	888			8343	0000	J0003	LDA	C0142	RX		
0057	8765	888	_		8355	0000	J0004	LDA	CO154	RX		
0058	8766	888	-		9367	0000	J0005	LDA	C0166	RX		
0059	8767	888			B 379	000C	J0006	LDA	C0178	RX		
0060	8768	858			8391	000C	J0007	LDA	C0190	RX		
0061	8769	888			8207	0000	J0008	LDA	C0006	RX		
0062	8770	888			B 324	000C	10009	LDA	C0123	RX		·
0063	8771	888			8336	000C	J0010	LDA	C1135	RX		
0064	8772	888	0 2	5	9348	COOC	J0011	LDA	CO147	RX		

0065 0066 0067 0068 0069	8773 8774 8775 8776 8777	398 388 388	0 25 0 25 0 25 0 25 0 25	8360 8372 8384 8396 8212	000C 000C 000C	70019 70012 70012	LDA LDA LDA LDA	C0159 C0171 C0183 C0195 C0011	RX RX RX RX
--------------------------------------	--------------------------------------	-------------------	--------------------------------------	--------------------------------------	----------------------	-------------------------	--------------------------	---	----------------------

0070	8999	888	0	25	8803	ACOB	INIT	LDA	HROF		ī.	INITIALIZE.
0071	-										71.	STOP.
0072	BOOA	888	0	67	8804	BOIA		HLT	PASS2			
0073	BOLA	888	0	60	8805	802A		STA	CKWR			
0074	802A	888	_	F2	0300	BOJA		TRW	0300		12.	SET STARTING VALUES
0075	BOJA	888		26	8806	8806		CLA				SET STARTER TABLES
0076	8806	888	-	60	8807	804A		STA	A41 144			
			-						NUM			
0077	804A	888	0	-	8088	805A		STA	SSCT			
0078	805A	888	0	25	8809	3510		LDA		9F		
0079	8809	388	1	00	0050	0000		CONI	00005	00000		
0080	8810	886	0	60	8811	806A	9	STA	55%			
0081	806A	888	0	25	8812	8813		LDA		2F		
0082	8812	888		00	8420	8401		JMP	80019	80000		
C800	8813	888		60	8814	807A	2	STA	WR2			
0084	807A	888			8815	3816	_	LDA	*1/*	9F		
0085	8815	888	_	00	0000				00000			
	-					0010	_	CONT	00000	00010		
0086	8816	888	-	60	4201	ABOB	9	STA	R0001			
0087	ASOS	888	0	25	8622	APOB		LDA	U0000		13.	THEN GO
0088	809A	888	0	60	8817	BIOA		STA	KO			
0089	BIOA	888	0		8818	8819		STA	K1	MASTR		

0090	8820	898 0 60	8821	811A	U1	STA	UEX		U.	UNLOAD SECTION
0091	BILA	888 0 96	4001	812A	•	HBU	00001			UNLOAD BUFFER
0092	812A	85B 0 25	8822	3823		LDA	0004-	9F	OIP	ONCORD BOFFER
0093	8822	888 0 00	8400	8201		JMP	C0199	c0000		
0094	8823	888 0 80	4000		9					
0095				9824		TDC	D0000	U2		ALIEAU ALIE
	8824	888 0 30	8825	8826	U2	LDL		9F	U	CHECK 2ND
0096	8825	BBB O HH	НННН	НННН		CON	нинин	ННННН		
0097	8826	888 0 25	B207	813A	9	LDA	C0006			
0098	813A	888 0 82	8827	8828		TEQ	US	U3	3 2006	
0099	8828	888 0 05	5829	814A	U3	LDX	8F		Ų3.	COMPARE 2ND STATION
0100	BIHA	888 1 08	0016	8830		LIR3	0016	9F		
0101	8830	858 1 04	8741	8741	9	JMP3				
0102	8802	888 1 04	8761	8761	TBIR	JMP3	10000			
0103	8829	888 0 82	8831	8832	6	TEQ		U6		
0104	8831	888 1 0G	9999	815A		IIR3	9999			
0105	815A	888 0 31	8833	8833		CLL				
0106	8833	888 0 82	8834	8830		TEQ	U4	98		
0107	8834	88B 0 07	0600	816A	U4 ·	IIR	0600	,	U4.	CHECK FOR 600 CARDS
0108	816A	888 0 77	BIGA	817A	-	ATL			•	
0109	817A	888 0 07	0001	818A		IIR	0001			
0110	518A	888 0 70	8808	819A		ADD	SSCT			
0111	819A	888 0 60	8808	820A		STA	SSCT			
0112	820A	888 0 82	8835				3361	2F		
				8836		TEO		47		
0113	8835	888 0 26	8837	8837		CLA	****			
0114	8837	88B 0 60	8808	821A		STA	SSCT			
0115	821A	888 0 75	8811	BSSV		SUB	SSW	44		
0119	ASSE	888 0 60	8811	8838		STA	SSW	JF		
0117	8836	888 0 25	8811	8838	2	LDA	SSW	3F		
0118	8838	888 0 70	8839	000A	3	ADD		RA		
0119	8839	888 0 47	0050	4999		HSS	0050	4999		WATCH OUT FOR UNDIGIT GARBLE
0120	4999	888 0 25	8207	823A	4999	LDA	C0006		U5.	FILL INTERNAL BUFFER
0121	823A	858 0 60	8621	824A		STA	E0019			
0122	824A	888 0 25	8212	825A		LDA	C0011			
0123	825A	888 0 60	8620	826A		STA	E0018			
0124	826A	888 0 25	8391	827A		LDA	C0190			
0125	827A	888 0 60	8619	828A		STA	E0017			
0126	828A	888 0 25	8396	829A		LDA	CQ195			
0127	829A	888 0 60	B618	AOES		STA	E0016			
0128	BJOA	888 0 25	8379	AICE		LDA	C0178			
0129	BJIA	888 0 60	8617	BJ2A		STA	E0015			
0130	832A	888 0 25	8384	833A		LDA	C0183			
0131	BJJA	888 0 60	8616	834A		STA	E0014			
0132	834A	888 0 25	8367	835A		LDA	C0166			
0133	BJSA	888 0 60	8615	BJ6A		STA	E0013			
0134	836A	888 0 25	8372	837A		LDA	C0171			
0135	837A	888 0 60	8614	838A		STA	E0012			
0136	BJBA	888 0 25	8355	8394						
0137	BJ9A	888 0 35	8840			LDA	C0154	a r		
0138	8840	888 0 OH	HHHH	3841	9	ERS	9F	8F		
	0070	BOB U UN	חחחה	НННН	7	CON	ОНННН	ННННН		

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0139 8841 888 0 60 8613 840A 8 STA FOR	
0139 8841 888 0 60 8613 840A 8 STA EO	011
DIRA DIA DOMESTICA	159
0141 841A 888 0 35 8840 842A ERS 98	
OANA MAA	010
0.40	154
AARA MALA	
ALUE COURT	142
Dalla Salla	900
A LUM MILL AND A COMPANY OF THE PARTY OF THE	100
TAME OF THE OF	100
OA HO MESA	007
	159
	147
	900
ALE TO THE TOTAL T	
316	100
ALE	006
	142
	130
STATE SALE CONTRACTOR	300
0158 858A 888 0 25 000C 859A LDA RX	
	100
0160 860A 888 0 60 8607 861A STA EOC	105
0161 861A 888 0 05 8348 862A LDX CO	147
0162 862A 88B 0 25 8336 863A LDA COI	
0163 663A 68B 0 32 0800 864A SHR 08	300
0164 864A 858 0 25 000C 865A LDA RX	
ALLE MARK THE TOTAL THE TANK T	100
0166 B66A BBB 0 60 B606 B67A STA E00	
0167 867A 888 0 25 8319 868A LDA COI	
0168 868A 888 0 35 8842 8843 ERS 9F	8
0169 8842 888 0 HH HHHH HHHO 9 CON HHH	
0170 8843 888 0 60 8605 869A 8 STA EOC	
0171 869A 888 0 25 8324 870A LDA COL	
0172 870A 888 0 35 8842 871A ERS 98	
0173 871A 898 0 60 8604 872A STA EOC	10.2
0174 872A 888 0 06 8844 8844 CLX	
0175 8844 888 0 60 8603 873A STA EOC	10.1
0176 873A 888 0 05 8331 874A LDX COL	
0177 874A 888 0 25 8319 875A LDA COL	
AAAA MAAA	00
0179 876A 888 0 25 000C 877A LDA RX	
14.00	00
0181 878A 888 0 60 8611 879A STA E00	
0182 879A 888 0 05 8336 880A LDX CO1	
Con Con	
CARL COL	
Alex Services	00
A Section 1	00
O. C.	00
0.400	
0186 8845 888 0 25 8846 8847 BLST LDA	9F

0189	8846	888	9	00	8621	8602		JMP	E0019	E0000		
0190	9847			88	4400	885A	9	TCD	R0200			
0191	885A		-	25	8818	886A		LDA	K1			
0192	886A	888	0	70	8848	8849		ADD		9F		
0193	8848	888	0	00	0000	0001		CON	00000	00001		
0194	8849	888	Q	80	4401	887A	9	TOC	R0201			
0195	887A	888	0	25	8818	ASSE		LDA	K1			
0196	BBBA	888	0	35	8850	8851		ERS		9F		
0197	8850	888	0	00	0000	HHHH		CON	00000	OHHHH		
0198	8851	898	0	37	0400	389A	9	SHL	0400			
0199	889A	388	0	20	8852	000A		BUF		RA		
0200	8852	888	0	25	0000	BOOA		LDA	0000			
0201	AOPE	688	0	60	8818	8827		STA	K1	U5		
0202	3827	858	0	25	8853	8854	U5	LDA		9F	U6.	MOVE STATION 1
0203	8853	888	0	00	8200	3001		JMP	F0199	F0000		
0204	8854			80	4000	3821	9	TDC	00000	UEX		
0205	8832		0	47	0200	391A	U6	HSS	0200		U7.	SELECT STACKER 2
0206	891A	888	0	67	0001	3821		HLT	0001	UEX		

0208	8855	888 0 42	8820	892A	G1	HBT	U1		G.	FETCH NEXT CARD SECTION
0209	892A	888 0 26	8856	8856		CLA			G1.	RESET TIMER
0210	8856	888 0 60	8857	3858		STA	T	G2		
0211	8858	888 0 72	8859	8860	G2	HCC		-G3	G2.	TRY TO FEED A CARD
0212	8859	898 0 42	8820	8858		HBT	U1	G2		
0213	8860	888 0 25	8817	893A	-G3	LDA	KO			
0214	893A	888 0 30	8818	894A		LOL	K1		G3.	CHECK BUFFERS.
0215	894A	888 0 82	8862	8863		TEQ		64		
0216	8862	888 0 42	8820	8858		HBT	U1	G2		
0217	8863	88 0 88	4400	895A	G4	TCD	R0200			
0218	B95A	888 0 35	8864	3865		ERS		9F	G4.	MOVE NEXT IMAGE
0219	8864	888 0 00	0000	HHHH		CON	00000	ОНННН	- 10	
0220	8865	888 0 37	0400	896A	9	SHL	0400			
0221	896A	888 0 20	8866	GOOA		BUF		RA		
0222	8866	88B Q 25	0000	397A		LDA	0000			
0223	897A	888 0 60	8817	898A		STA	KO			
0224	898A	88B 0 25	8867	3868		LDA		9F		
0225	8867	888 0 00	8801	3782		JMP	60019	60000		
0226	8868	888 0 80	4400	899A	9	TOC	R0200			
0227	399A	888 0 42	8820	BOOF		HBT	U1			
0228	BOOF	888 0 04	0000	0000		JMP1				
0229	8861	BBB 0 07	0150	BOIF	&G3	IIR	0150		65.	STEP TIMER
0230	BOIF	888 0 77	BOIF	802F		ATL				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
0231	802F	888 0 07	0001	803F		TIR	0001			
0232	803F	888 0 70	8857	BO4F		ADD	T			
0233	804F	888 0 60	8857	805F		STA	Ť			
0234	805F	888 0 05	0000	806F		LDX	0000			SYNCHRONIZE LOOP WITH DRUM
0235	806F	888 0 82	8869	8860		TEO		-G3		
0236	8869	888 0 67	0002	8855		HLT	0002	G1		

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0237 0238 0239	8870 807F 808F	858 0 07 858 0 77 858 0 26	0150 807F 8871	807F 908F 8871	STOP	IIR ATL CLA	0150 2F		5. 51.	STOP ROUTINE SHUT DOWN READER
0240 0241 0242	8871 809F 810F	888 0 42 888 0 05	0000 8872 0000	809F 810F 811F	2	TEG1 HBT LDX	0000 1F 0000			SYNCHRONIZE LOOP WITH DRUM
0243 0244 0245	811F 8873 8872	888 0 70 888 0 00 888 0 42	8873 0001 8820	8871 0000 8870	1	ADD CON HBT	00000 U1	28 10000 STOP		STRUMENT GOOD WITH CHOR

.

0044			4.									
0246	8819			08	8874	8855	MASTR		MASTI	G1	M.	MASTER PROCESS CONTROL
0247	9874	888	0	25	B790	812F	MAST1	LDA	G0008		M1.	FETCH A CARD
0248	312F	886	0	30	8875	8876		LDL		2F		
0249	8875	99B	0	11	2000	0000		ZON	FIN O	00000		
0250	8876		ō		B877	8878	2	TEO		3F	M2.	CHECK FOR FIN
0251	8877						•		00000	34	176.0	CHECK FOR FIR
			0		8791	813F		LDA	G0009			
0252	813F	888	0	30	8879	3880		LDL		2F		
0253	8879	888	C	69	5800	0000		NUM	FIN 0	00000		
0254	8880			82	8881	8882	2	TEQ		4F		
0255	8881		-	25	8883	6884	_	LDA		2F		
0256	8883											
			0		9999	9999		CON	99999	99999		
0257	8884	888	0	60	8807	3885	2	STA	NUM	WRITE		
0258	8878	988	0	30	8885	3887	3	LDL		2F	M3.	CHECK FOR CPY
0259	8886	888	0	12	3000	0000		ZON	CPY 0	00000		
0260	8887			82	8888	8882	2	TEO		4F		
			-				•			W.F		
0261	8888			25	8791	814F		LDA	60009			
0262	814F	886	0	30	3889	8890		LDL		2F		
0263	8889	888	0	37	8800	0000		NUM	CPY 0	00000		
0264	8890	•	ō		8891	8882	2	TEQ	COPY	4F		
0265							<u>.</u>				441	W
0203	8882	858	0	VO	8819	8885	4	LIRI	MASTR	WRITE	M4 .	WRITE LINE

0269											
0270	8891	688		8892	8870	COPY	LIRI		STOP	C.	COPY OLD TAPE
0271	8892	888 1		8893	9805	5	LIR2		CKAR	C1.	STOP THE READER
	8893	888		8787	815F	6	LDA	G0005			
0272	815F	88B (8789	816F		LDX	G0007		C2.	CHECK PREV WRITE
0273	816F	888	_	0500	817F		SHR	0500			
0274	817F	888		8894	318F		STA	FRST		C3.	SET UP FIRST LAST
0275	816F	888		8895	8896		STX	LST	-CP		
0276	8896	888		4201	319F	-CP	LOL	R0001		C4.	FIRSTICURRENT
0277	819F	888		8894	320F		LDA	FRST			
0278	820F	888		9898	8899		ERS		2F		
0279	8998	858 (00	0000	HHHO		CON	00000	OHHHO		1
0280	8899	888	82	8900	8901	2	TEQ	3F	8F		
0281	8901	898 (87	8902	8903	8	TGR	9F	4F		
0282	8902	898	62	0200	821F	9	TRD	0200		C5.	READ TAPE FORWARD
0283	821F	888 (C7	8902	822F		TBT	98			
0284	822F	888		8904	822F		TBT		*		
0285	B904	88B (8905	8905		CLA				
0286	8905	888		8906	8897		TEQ		ACP		
0287	8906	898	F6	4200	8896		TBU	R0000	-CP		
0288	8897	888	67	0006	8903	&CP	HLT	0006	4F		
- 0289	8903	356		0205	823F	4	TRD	0205		Có.	READ TAPE BACKWARD
0290	823F	898		8907	823F		TBT		*		
0291	8907	898		8908	8908		CLA				
0292	8908	888		8909	8911		TEQ		&CPP		
0293	8909	888		4200	8910		TBU	R0000	-CPP		
0294	8910	888		5894	824F	-CPP	LDA	FRST		C7.	RECOMPARE
0295	824F	888		8912	8913	-611	ERS	FKGI	2 F	C/•	RECURPANE
0296	8912	888		0000	HHHO		CON	00000	ОНННО		
0297				4343	825F	2		R0143	Granito		
U27/	8913	ARR C	3 361								
	8913 825F	888				٤.	LDL		a a		
0299	825F	888	82	8902	8901		TEO	98	58		
0299 0300	825F 8911	888	82	8902 0006	8901	&CPP	TEO HLT	0006	88 98	ca	MANE TO OUTPUT
0299 0300 0301	825F 8911 8900	888 0 888 0	82 67 25	8902 0006 8894	8901 8902 826F		TEO HLT LDA	98	98	C8.	MOVE TO OUTPUT.
0299 0300 0301 0302	925F 8911 8900 826F	888 C 888 C 888 C	82 67 25 35	8902 0006 8894 8914	8901 8902 826F 8915	&CPP	TEQ HLT LDA ERS	98 0006 FRST	98 2F	Cs.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303	825F 8911 8900 826F 8914	888 0 888 0	82 67 25 35 00	8902 0006 8894 8914 0000	8901 8902 826F 8915 000H	&CPP 3	TEQ HLT LDA ERS CON	98 0006 FRST	98	C8.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303 0304	825F 8911 8900 826F 8914 8915	888 0 888 0 888 0 888 0	82 67 25 35 00 37	8902 0006 8894 8914 0000 0500	8901 8902 826F 9915 000H 827F	&CPP	TEO HLT LDA ERS CON SHL	98 0006 FRST 00000 0500	98 2F	C8.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303 0304	825F 8911 8900 826F 8914 8915 827F	888 0 888 0 888 0 888 0 888 0	82 67 25 35 00 37 70	8902 0006 8894 8914 0000 0500	8901 8902 826F 8915 000H 827F 828F	&CPP 3	TEQ HLT LDA ERS CON SHL ADD	98 0006 FRST 00000 0500 RA	9B 2F 0000H	CS.	MOVE TO OUTPUT.
0300 0301 0302 0303 0304 0305	925F 8911 8900 926F 8914 8915 827F	888 0 888 0 888 0 888 0 888 0 888 0	82 67 25 35 00 37 70	8902 0006 8894 8914 0000 0500 000A 8916	8901 8902 826F 8915 000H 827F 828F 8917	&CPP 3	TEQ HLT LDA ERS CON SHL ADD ADD	98 0006 FRST 00000 0500 RA MOV	98 2F 0000H 1F	cs.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303 0304 0305 0306	925F 8911 8900 926F 8914 8915 827F 828F 8916	888 0 888 0 888 0 888 0 888 0 888 0	82 67 25 35 00 37 70 70 80	8902 0006 8894 8914 0000 0500 000A 8916 4200	8901 8902 826F 8915 000H 827F 828F 8917 8918	&CPP 3	TEQ HLT LDA ERS CON SHL ADD ADD TDC	98 0006 FRST 00000 0500 RA MOV ROOO0	9B 2F 0000H	cs.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303 0304 0305 0306 0307	825F 8911 8900 826F 8914 8915 827F 828F 8916 8917	888 0 888 0 888 0 888 0 888 0 888 0 888 0	82 67 25 35 00 37 70 70 80	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919	8901 8902 826F 8915 000H 827F 828F 8917 8918 829F	&CPP 3	TEQ HLT LDA ERS CON SHL ADD ADD TDC STA	98 0006 FRST 00000 0500 RA MOV	9B 2F 0000H 1F WRIT2	cs.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308	925F 8911 8900 826F 8914 8915 827F 828F 8916 8917 829F	355 0 355 0 355 0 355 0 355 0 355 0 355 0 355 0 355 0	82 67 25 35 00 37 70 70 80 60 25	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920	8901 8902 826F 9915 000H 827F 828F 8917 8918 829F 8919	&CPP 3	TEQ HLT LDA ERS CON SHL ADD ADD TDC STA LOA	98 0006 FRST 00000 0500 RA MOV R0000 WRIT1	9B 2F 0000H 1F WRIT2 WRIT1	cs.	MOVE TO OUTPUT.
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309	925F 8911 8900 826F 8914 8915 827F 828F 8916 8917 829F 8920	268 0 258 0	82 67 25 35 00 37 70 70 80 60 25	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8601	8901 8902 826F 8915 000H 827F 828F 8917 8918 829F 8919 8782	acpp 3 2 Mov	TEQ HLT LDA ERS CON SHL ADD TDC STA LOA JMP	98 0006 FRST 00000 0500 RA MOV R0000 WRIT1 G0019	9B 2F 0000H 1F WRIT2 WRIT1 G0000		
0299 0300 0301 0302 0303 0304 0305 0306 0307 0306 0309 0310	825F 8911 8900 826F 8915 827F 828F 8916 8917 829F 8920	268 0 268 0	82 67 25 35 00 37 70 70 80 60 25 00	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8601 8921	8901 8902 826F 8915 000H 827F 8917 8918 829F 8919 8782 885	ACPP 3 2 MOV 1 WRIT2	TEQ HLT LDA ERS CON ADD TDC STA LDA JMP LIRI	98 0006 FRST 00000 0500 RA MOV R0000 WRIT1 G0019	9B 2F 0000H 1F WRIT2 WRIT1		MOVE TO OUTPUT. THEN WRITE IT OUT
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0310 0311	825F 8911 8900 826F 8914 8915 827F 828F 8916 8917 829F 8920 8921	355 0 355 0	82 67 25 35 00 37 70 80 60 25 08	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8601 8921 8894	8901 8902 826F 8915 000H 827F 828F 8917 8918 829F 8919 8782 8885 830F	acpp 3 2 Mov	TEQ HLT LDA ERS CON SHL ADD TDC STA LDA JMP LIRI LDA	98 0006 FRST 00000 0500 RA MOV ROOOO WRIT1 GO019 SF FRST	9B 2F 0000H 1F WRIT2 WRIT1 G0000		
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0311 0313	825F 8911 8900 826F 8915 827F 828F 8916 8917 829F 8920 8921 830F	355 0 355 0	82 67 25 35 00 70 70 80 60 25 08 25 30	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8601 8894 8895	8901 8902 826F 8915 000H 827F 828F 8917 8918 829F 8919 5782 8885 830F 831F	ACPP 3 2 MOV 1 WRIT2	TEQ HLT LDA ERS CON SHL ADD TDC STA LDA LDA LDA LDA LDA	98 0006 FRST 00000 0500 RA MOV R0000 WRIT1 G0019 5F FRST LST	9B 2F 0000H 1F WRIT2 WRIT1 G0000		
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0310 0311 0313	825F 8911 8900 826F 8915 827F 828F 8916 8917 829F 8920 8921 830F 831F	355 0 355 0	82 67 25 35 00 70 70 80 60 25 00 08	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8601 8895 8895 8922	8901 8902 826F 9915 000H 827F 8917 8918 829F 8919 8782 830F 831F 832F	ACPP 3 2 MOV 1 WRIT2	TEQ HLT LDA ERS CON SHL ADD TDC STA LDA LDA LDL ADD	98 0006 FRST 00000 0500 RA MOV RO000 WRIT1 G0019 SF FRST LST ONE	9B 2F 0000H 1F WRIT2 WRIT1 G0000		
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0310 0311 0313 0314 0315	825F 8911 8900 826F 8915 827F 828F 8916 8917 829F 8920 8921 830F 832F	368 0 368 0	82 67 25 35 00 70 80 60 25 00 80 60 25 70 87	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8801 8895 8895 8895 8895	8901 8902 826F 9915 000H 828F 8917 8918 829F 8919 8885 830F 831F 832F 833F	ACPP 3 2 MOV 1 WRIT2	TEO HLDA ERS SHLD ADD TDA ADD TDA LDA LDA LDD TGR	98 0006 FRST 00000 0500 RA MOV RO0000 WRIT1 G0019 5F FRST LST ONE MASTR	PB 2F 0000H 1F WRIT2 WRIT1 G0000 WRITE	C9 •	THEN WRITE IT OUT
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0310 0311 0313 0314 0315 0317	825F 8911 8900 826F 8915 827F 828F 8916 8917 8920 8921 833F 833F	268 0 268 0	82 67 25 35 00 37 70 80 60 25 00 87 60	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8891 8894 8895 8892 8819 8894	8901 8902 826F 9915 000H 828F 8917 8918 829F 8919 830F 831F 833F 833F 833F	ACPP 3 2 MOV 1 WRIT2 5	TEQ HLDAS CONL ECONL ADD TDA ADD TDA LDD TGA LDD TGA STA	98 0006 FRST 00000 0500 RA MOV RO000 WRITI GO019 5F FRST LST ONE MASTR FRST	9B 2F 0000H 1F WRIT2 WRIT1 G0000	C9 •	
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0310 0311 0313 0314 0315 0317	825F 8911 8900 826F 8915 827F 828F 8917 829F 8921 833F 833F 833F 8923	268 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	82 67 25 35 00 70 80 60 25 00 87 60 25	8902 0006 8894 8914 0000 0500 0500 8916 4200 8919 8801 8894 8895 8894 8894 8894 8894	8901 8902 826F 9915 0027F 8918 8917 8918 8919 8785 8332F 8332F 8332F 8332F 8332F 8332F 8332F 8332F 8332F 8332F	ACPP 3 2 MOV 1 WRIT2	TEQ HLDAS SHDD TDTAA DDD TDTAA LDDD TGTAA LD	98 0006 FRST 00000 0500 RA MOV RO0000 WRIT1 G0019 5F FRST LST ONE MASTR	PB 2F 0000H 1F WRIT2 WRIT1 G0000 WRITE	C9 •	THEN WRITE IT OUT
0299 0300 0301 0302 0303 0304 0305 0306 0307 0308 0309 0310 0311 0313 0314 0315 0317	825F 8911 8900 826F 8915 827F 828F 8916 8917 8920 8921 833F 833F	268 0 268 0	82 67 25 35 00 70 80 60 25 00 87 60 25	8902 0006 8894 8914 0000 0500 000A 8916 4200 8919 8920 8891 8894 8895 8892 8819 8894	8901 8902 826F 9915 000H 828F 8917 8918 829F 8919 830F 831F 833F 833F 833F	ACPP 3 2 MOV 1 WRIT2 5	TEQ HLDAS CONL ECONL ADD TDA ADD TDA LDD TGA LDD TGA STA	98 0006 FRST 00000 0500 RA MOV RO000 WRITI GO019 5F FRST LST ONE MASTR FRST	PB 2F 0000H 1F WRIT2 WRIT1 G0000 WRITE	C9 •	THEN WRITE IT OUT

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0321	8 35 F	388	0	30	8925	8926		LDL		2F
0322	8925	888	Q	80	4400	8918		TDC	R0200	WRIT2
0323	8926	898	0	82	8902	8917	2	TEQ	98	18
0324	8924	888	0	00	0020	0000	M20	CON	00002	00000
0325	8922	888	0	00	0000	0001	ONE	CON	00000	00001

0326

0327

0328

0329

0330

8885

836F

837F

838F

8927

858 0 42 858 0 25 858 0 60

888 0 31 888 0 50

8820 8807

8783

8927

8762

836F

837F

838F

8927

839F

₽ ₩ Y	0220	0747	308 O 20		839F		STL	60000		
3	0331	839F	388 Q 70	8922	8928		ADD	ONE	-WR	W2. PLACE IN BUFFER
Remington Division of Spei	0332	6928	898 0 60	8807	8930	-WR	STA	NUM	WR4	
Sio	0333	8930	888 0 25	8931	8932	WR4	LDA		1F	
ā à	0334	8931	888 0 00	8801	8782		JMP	60019	60000	
	0335	8932	88 0 886	4000	840F	1	TCD	D0000		
	0336	840F	888 0 25	8814	841F	~	LDA	WR2		4
	0337	841F	888 0 30	8933	8934		LOL	9F	1F	
	0338	8933	888 0 00	8600		9				
	0339	8934			9581		JMP	80199	80180	
	0340	842F	888 0 80		842F	1	TDC	00000		
			888 0 82		843F		TEO	1F		
	0341	843F	888 0 70	8936	844F		ADD	THIW		
	0342	844F	888 0 60		845F		STA	WR2		
	0343	845F	898 0 42		846F		HBT	U1		
	0344	846F	888 0 04	0000	0000		JMP1	0000		
	0345	8935	888 0 25	8937	9938	1	LDA	85	1F	
	0346	8937	888 0 00	8420	3401	8	JMP	80019	80000	
	0347	8938	888 0 60	8814	847F	1	STA	WR2		
	0348	847F	888 0 42	8820	348F	-	HBT	U1		
	0349	848F	888 0 25	8401	349F		LDA	B0000		
	0350	849F	888 0 60	8601	850F		STA	80200		
	0351	850F	888 1 02	8939	8805				****	ME CHEAR BOWN WOTTH
	0352	8936	356 0 00			TWTW	LIR2		CKWR	W3. CHECK PREV WRITE
	0353			0020	0020	TWTW	CON	00002	00020	
	0354	8939	888 0 C6	8402	9940	5	TBL	80001	1F	
		8940	888 0 H2	0300	851F	1	TWR	0300		
	0355	8517	35B 0 C2	8941	8942		TST		7 F	
心口面寫	0356	8941	888 0 42	8820	3940		HBT	U1	18	
L TO	0357	8942	898 0 25	8943	852F	7	LDA	WRON		
NTA	0358	852F	888 0 60	8805	853F		STA	CKWR		
SUF	0359	853F	898 0 04	0000	0000		JMP1	0000		
AGR TO EIN	0360	8929	888 0 OB	8944	8930	& WR	LIR1		WR4	W4. WRITE SENTINEL.
HER EES	0361	8944	888 Q 25	8814	854F		LDA	WR2	******	
IPIE N T SE GRE	0362	854F	888 0 30	8937	855F		LDL	85		
REC RPC	0364	855F	888 0 82	8945	8929		TEQ	-	& WR	
THE	0365	8945	888 1 02	8946	8805		LIR2	5.5	CKWR	WS. CLEAN UP.
ANA TOTAL	0366	8946	888 0 08	8947	8870	5	LIRI		STOP	MAG OFFINA OLD
OR B	0367	8947	888 Q C6	8402	8948	5				
S. TH	0368	8948	898 0 H2	0300	356F	5	TAL	80001	5F	
ANE REPORT	0369					J	TWR	0300		
ANE OTF SEM.	0370	856F	888 0 C2	8948	857F		TST	58	***	
F F W ON	0371	857F	888 0 F2	0200	8804		TRW	0200	PASS2	
Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z		8804	888 0 F2	0300	858F	PASS2	TRW	0300		Wa. END.
F OF Oz	0372	858F	888 0 G2	0400	859F		TRO	0400		· ·
10 K 10 K	0373	859F	888 0 F6	8000	8000		TBU	8000	8000	
SUCAN	0374	8803	888 1 00	0000	0000	WROF"	JMP2	0000		W50. PREVIOUS WRITE
M H H M	0375	8943	888 0 C7	9949	860F	WRON	THT	15		
P. C.										
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A R R R R R R R R R R R R R R R R R R R							-			
N O N										
SZ SE SE							•			

WRITE

HBT UI

STA

CLL

LDA NUM

60001

G0000

W. TAPE WRITE CONTROL SECTION. ... WI. SET LINE COUNT.

0376	860F	898 0 42	8820	8943		HBT	U1	WRON	
0377	8949	898 0 26	8950	8950	1	CLA			
0378	8950	888 0 82	8951	961F		TEQ	3F		W51.WAIT READY.
0379	BOLF	858 0 0G	0000	362F		IIRI	0000		
0380	862F	888 0 20	8952	8953		BUF		2F	
0381	8952	888 0 08	0000	8954		LIR1	0000	CKW1	
0382	8953	888 0 60	8955	863F	2	STA	CK#2		
0383	863F	888 0 08	8955	8870		LIR1	CKW2	STOP	
0384	8954	888 0 67	0005	8803	CKWI	HLT	0005	WROF	
0385	8951	858 0 25	8803	864F	3	LDA	WROF		
0386	864F	888 0 60	8805	8803		STA	CKWR	WROF	
- 0387						END	INIT		

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1. GADAAD ASSEMBLER PASS 1. TABLE OF CONTENTS C. COPY ROUTINE G. GET NEXT CARD IMAGE ROUTINE I. INITIALIZE ROUTINE M. MASTER CONTROL ROUTINE U. CARD BUFFER UNLOAD CO-ROUTINE W. TAPE WRITE ROUTINE THIS PASS READS CARDS ONTO TAPE: UPDATING A PREVIOUS TAPE. THE SHOW BEGINS AT ROUTINE I. ERROR STOPS M MEANING 1 CARD READ COMPARISON ERROR 2 HSR OFF NORMAL 5 TAPE WRITE ERROR 6 TAPE READ ERROR

I. INITIALIZE.

II. STOP.
HALT: IF M RESTART GO TO PAS2 (W6).

IZ. SET STARTING VALUES
SET LINE COUNT TO O
SET STACKER SELECT COUNT TO O
SET STACKER SELECT TO POCKET O
RESET OUTPUT BUFFER
SET CURRENT TAPE INPUT LINE COUNT TO -10
CLEAR CARD INPUT BUFFERS

IJ. THEN GO

TO MASTER CONTROL MI.

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(---IN---)

U. UNLOAD SECTION UI. UNLOAD BUFFER FILL 2ND STATION AREA U2. CHECK 2ND STATION EMPTY. IF EMPTY. GO TO US. U3. COMPARE 2ND STATION WITH PREVIOUS 1ST STATION FOR CHECK. GO TO US IF COMPARISON FAILS. U4. CHECK FOR 600 CARDS IF SO SWAP CARD POCKETS O AND 1 US. FILL INTERNAL BUFFER EDIT 2ND STATION TO E REGION SEE GADAAD PASS 2. SECTION E FOR OUTPUT FORMAT MOVE REGION E TO NEXT FREE CARD INPUT BUFFER THEN CYCLE EMPTY BUFFER CONTROL LINK KI. U6. MOVE STATION 1 TO 15T STATION AREA. THEN EXIT. U7. SELECT STACKER 2

BEGINNING WITH BAD COMPARISON CARD. HALT.

THEN EXIT.

- G. FETCH NEXT CARD SECTION
- G1. RESET TIMER FOR OFF NORMAL
- G2. TRY TO FEED A CARD
 IF OFF NORMAL GO TO G5.
- G3. CHECK BUFFERS.

 IF BUFFERS ARE EMPTY GO TO G2

 AND FEED ANOTHER CARD.
- G4. MOVE NEXT IMAGE
 TO AREA G.
 THEN CYCLE FULL SUFFER CONTROL LINK KO.
 AFTER THAT EXIT.
- G5. STEP TIMER
 STEP THE OFF NORMAL TIMER.
 IF TOO LONG STOP.
 THEN TRY AGAIN BY GOING TO G1.
 OTHERWISE GO TO G3 AND EMPTY A BUFFER.

S. STOP ROUTINE
S1. SHUT DOWN READER
COUNT TO 150 TO MAKE SURE ALL COMMITTED
CARDS HAVE BEEN READ.
THEN EXIT.

- M. MASTER PROCESS CONTROL
- M1. FETCH A CARD BY GOING TO SECTION G.
- M2. CHECK FOR FIN

 IF SO SET LINE NUMBER TO SENTINEL

 AND WRITE TAPE AT W1.
- M3. CHECK FOR CPY
 IF SO JUMP TO COPY ROUTINE C1.
- M4. WRITE LINE
 THIS IS A CARD TO BE PROCESSED BY PASS 2 SO
 WE WRITE IT OUT. USING ROUTINE W. AND GO
 BACK TO M1.

C. COPY OLD TAPE C1. STOP THE READER ROUTINE S. C2. CHECK PREV WRITE AT W50. C3. SET UP FIRST LAST LINE NUMBERS FOR OLD TAPE. C4. FIRST: CURRENT IF FIRST IS LESS THAN CURRENT GO TO Co. IF FIRST EQUALS CURRENT GO TO C8. C5. READ TAPE FORWARD THEN GO BACK TO C4. IF ERROR ON TAPE READ! HOWEVER! HALT AND REVERSE DIRECTION C6. READ TAPE BACKWARD IF ERROR REVERSE DIRECTION AT CS. C7. RECOMPARE IF FIRST IS STILL LESS THAN CURRENT. GO TO CO IF THEY ARE EQUAL. REREAD FORWARD AT C5. IF GREATER. WE ALSO GO TO C5 (PROBABLY A BAD MACHINE ERROR) CB. MOVE TO OUTPUT. MOVE A RECORD FROM THE OLD TAPE TO WORKING STORAGE (REGION G). C9. THEN WRITE IT OUT THE OLD TAPE IS NOW POSITIONED TO WRITE PROPERLY. USE SECTION W TO WRITE OUT A LINE. INCREMENT 'FRST' AND CHECK FOR END. IF DONE WITH THIS COPY CARD GO BACK TO MASTER CONTROL MI

IF EXHAUSTED READ ANOTHER RECORD AT C5.

CIO. CHECK INPUT BUFFER

OTHERWISE GO BACK TO CB.

(IN)	under -
0327	
(W1. SET LINE COUNT) - FIN:)0
OK: :	• • • • • • • • • • • • • • • • • • •
(W2. PLACE IN BUFFE	
FULL :	
0351 :	
#3. CHECK PREV #RI	TE : EXIT
0(****	•••••••••••••••••••••••••••••••••••••••
W4. WRITE SENTINEL	· · · · · · · · · · · · · · · · · · ·
YES: :	± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±
W5. CLEAN UP.	* ************************************
0371	
W6. END.	**************************************
0374 (
W50. PREVIOUS WRITE	NONE EXIT
WRIT :	
0378 : ()
	Y

- W. TAPE WRITE CONTROL SECTION.
 WI. SET LINE COUNT.
 AND INCREMENT
 IF SENTINEL JUMP TO W4.
 W2. PLACE IN BUFFER
 THEN CHECK FOR BUFFER FULL.
 IF NOT. EXIT.
 W3. CHECK PREV WRITE
 AT #50.
 LOAD THE BUFFER. WRITE. AND SET THE
 CHECKING SWITCH ON.
 THEN EXIT.
- W4. WRITE SENTINEL.
 CHECK FOR END OF TAPE RECORD.
 IF NOT. RETURN TO W4. WRITING SENTINELS UNTIL
 A TAPE RECORD IS DUMPED OUT.
- W5. CLEAN UP.
 CHECK THE WRITE. USE W50.
 WRITE ANOTHER SENTINEL BLOCK.
- W6. END. REWIND TAPES, READ PASSE AND EXECUTE IT.
- W50. PREVIOUS WRITE...
 SWITCH TESTS EXISTENCE OF PREVIOUS WRITE.
 IF NONE EXIT.
- W51.WAIT READY.

 WHEN TAPE IS FINISHED CHECK FOR ERRORS.

 IF OK SET SWITCH OFF AND EXIT.

 IF ERROR STOP THE READER (SECTION S).

 HALT. AND THEN EXIT.

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0000	FL	.0		2.	
0001				TAE	LE OF CONTENTS
0002				X	A. AJST* SUBROUTINE.
0003				X	B. BEGINNING OF ASSEMBLY
0004				X	C. CONTROL OPS.
0005				X	D. DEFINE ADDRESS (DEFN*)
0006				X	E. EDIT INPUT CARD
0007				X	F. FIND AND RESERVE BEST LOCATION (FARB#)
0008				X	L. PROCESS A ADDRESS.
0009				X	O. OUTPUT SUBROUTINE.
0010				X	P. PROCESSING OF INSTRUCTIONS.
0011				Ŷ	Q. MASTER ADDRESS CALCULATOR (FIND+)
0012				Ç	S. SYMBOL TABLE SEARCH (SRCH*
0013				0	X. EXAMINE REMARKS FIELD
0014				â	
0015					Z. ENDING OF ASSEMBLY.
0016				X	THIS PASS DOES THE ACTUAL ASSEMBLY.
0017	ė.	B 8000	0100	X	THE SHOW BEGINS AT ROUTINE B.
0018	SL.		0399		
0019		M1 00001	00000	G	CAUSES ASSEMBLY INTO BODA - 899F AREA.
0020	5 0000 C0			G	INPUT BUFFER
	60000 CO			G	INPUT BUFFER
0021	70000 BL		4999	G	OUTPUT BUFFER
0022	50000 C0	R 0014		G	BLA-BLR CONTROL
0023	C0000 BL	R 4030	4035	G	C ADDRESS CONTROL
0024	D0000 C0	R 0202		G	DRUM AVAILABILITY TABLE
0025	E0000 C0	R 0006		G	DEFN* CONTROL
0026	F0000 C0			6	FARS* CONTROL
0027	10000 CO			G	FORWARD LOCAL TABLE
0028	J0000 C0			6	BACKWARD LOCAL TABLE
0029	LOOOC BL		4015	G	A ADDRESS CONTROL
0030	M0000 BL		4025	Ğ	M ADDRESS CONTROL
0031	90000 BL		4009	G	INDEX REGISTER CODES
0032	R0000 C0		490)	Ğ	REMARKS
0033	Û0000 C0			Ğ	H FIELDS
0034	V0000 C0				H FIELD CONTROL
0035	W0000 EG			G	H PIELD CONTROL
0036				_	PAU AANTON
0037	X0000 C0			G	EQU CONTROL
0038	Y0000 E0		2000	G	BAND FOR LOADING ROUTINE
	Z0000 BL		0999	G	BLANK COMMENTS
0039	10000 CO			G	PAIR ADDRESS CONTROL
0040	30000 C0			G	EDITING
0041	STAB BL		1999	G	SYMBOL TABLE
0042	ETAB BL		2999	G	EQUIVALENTS TABLE
0043	A. CO			G	A FIELD ZZZZNNNNN
0044	AH CO			G	AH FIELD OOZZZOONNN
0045	M CO				
0046	MH CO				
0047	c co	R 0001			
0048	CH CO	R 0001			

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20/10			A #04		_	To a state of the
0049	ITAPI	EGU	0300		G	INPUT TAPE
0050	OTAPI	EQU	0500		G	OUTPUT TAPE
0051	OTAP2	EGU	0600		G	CONTROL FOR FLOW PASS PSEUDOCODE
0052	CHATO	EQU	0700		G	COMMENTS FOR FLOW PASS
0053	COMTS	BLR	3400	3599		
0054	CMTS1	EQU	3401			
0055	STOPT	EQU	#9801			
0056	EXIT	EOU	BOFB		G	VARIOUS TEMP STORAGES
0057	EXITI	EQU	BIFB			
0058	EXIT2	EOU	82F8			
0059	TEMP	EQU	BJFB			
0060	TEMP1	EQU	84FB			•
0061	TEMP2	EQU	85F8			
0062	ERROR	EQU	86F8		G	ERRORS ON CURRENT LINE
0063	DEFX	EQU	87FB		-	
0064	UDEFX	EQU	88F8			
0065	SYMBL	EQU	89F8			
0066	INCRE	EQU	BOFC			
0067	PANIC	EQU	BIFC			
0068	MASK	EQU	B2FC			
0069	CORE	EQU	BJFC			
0070	BLANK	EQU	84FC			
0071	ALOC	EOU	85FC			
0072	MLOC	EQU	86FC			
0073		EGU	B7FC			
0074	CLOC					
0075	DEXIT	EOU	BAFC			
0076	SIGN	EOU	89FC			
0077	R	EQU	BOFG			
0078	LINE	EOU	BIFG		•	hit is maring any
0079	MCN	EGU	B2FG		G	NUM CONSTANT
0080	MCZ	EQU	BJFG		9	ZON CONSTANT
0081	MC	EQU	84FG		G	CON CONSTANT
	OP	EOU	SSFG			
0082	IR	EQU	56FG		_	
0083	TAPEI	EQU	87FG		G	LINE COUNTER IN INPUT BUFFER
0084	TCONT	EQU	BBFG		G	CONTROL FOR TAPE BUFFER UNLOAD
0085	LTAPE	EGU	99FG		G	LAST TAPE COMMAND
0086	TEX1	EOU	BOFH			
0087	TEX	EQU	BIFH			
0088	AEX	EGU	B2FH			
0089	ALEV	EQU	83FH			
0090	MLEV	EQU	84FH			
0091	CLEV	EQU	BSFH			
0092	HTAG	EQU	POFH			
0093	FTAG	EQU	87FH			
0094	RTAG	EQU	BSFH			
0095	OPTIM	EQU	BOFH			•
0096	SHRI	EQU	BOAC			
0097	SHR2	EQU	BIAC			
0098	LC	EQU	B2AC		G	LINE COUNTER ON OUTPUT PAGE
						-

•		-								
0099					LINEO	-011				
0100	-					EQU	BJAC		G	LINE COUNTER IN OUTPUT BUFFER
0101					FLAG	EQU	84AC		_	
0102					ACCUM MUMI	EOU	BSAC		G	ERRORS ON LAST ERRONEOUS LINE
0103						EQU	B6AC			
0104					MUML	EQU	BTAC			
0105					COMI	EQU	BBAC			
0106		v			KEY	EQU	BOAC			
0107					DK	EQU	BOAB			
0108		•			HSB	EQU	84AB			
0109		9.5			HSB1	EQU	BOAB			
0110		~			BLA	EQU	BOAG		G	CONTROL OPS STARTING LOCATIONS
0111					BLR	EQU	BIAG			
0112					COR	EGU	BZAG			
0113		**			PSUDX	EQU	BJAG			
0114					EQU	EQU	84AG			
0115					ННН	EQU	85AG			
0116					FLO	EQU	BOAG			
					END	EQU	B7AG			
0117 0118					NEW	EQU	BBAG			
0119					CON	EQU	HAOS			•
0120					NUM	EQU	BIAH			
					ZON	EQU	B2AH			
0121					PAT	EQU	BJAH			
0122					ALF	EQU	B4AH			
0123					OFF	EQU	BSAH			
0124					TYP	EQU	BEAH			
0125					FUNNY	EQU	HABE			
0126					BOP1	EQU	BSAH			
0127	8679	988 0 HH	HHHH	HHHH	R0010	CON	HHHHH	HHHHH		
0128	BJFH	888 0 00	0000	0000	ALEV	CON	00000	00000		·
0129	BAFH	888 0 00	0000	0000	MLEV	CON	00000	00000		
0130	BSFH	888 0 00	0000	0000	CLEV	CON	00000	00000		•
0131	SSFC	888 0 00	0000	0000	ALOC	CON	00000	00000		
0132	86FC	888 0 00	0000	0000	MLOC	CON	00000	00000		
0133	87FC	888 0 00	0000	0000	CLOC	CON	00000	00000		
0134	B7AC	99B 0 00	0000	0000	MUML	CON	00000	00000		
0135	HABE	888 0 00	2000	0000	FUNNY	CON	00200	00000	G	BOOA - 899F PART OF CORE USUALLY UNAVAILABLE
0136	BAAB	898 0 22	2220	0000	HSB	CON	22222	00000	G	WHAT GADAAD CHOOSES FOR H
0137	BPAB	888 0 00	0000	4000	HSB1	CON	00000	04000	6	HIGH-SPEED BANDS
0138						HHH	C		-	THE STATE OF THE S
0139	8712		BIFB	AOOB	SRCH*	STA	EXITI		S.	SYMBOL TABLE SEARCH (SRCH#)
0140	BOOA	888 0 65	B2FB	BOLA		STX	EXIT2		•	THIS SUBROUTINE LODKS UP A 5-CHARACTER
0141	BOIV	888 0 50	83F8	BOZA		STL	TEMP			QUANTITY TO SEE IF IT IS IN THE SYMBOL TABLE.
0142	802A	888 0 26	8713	8713		CLA				DB-CARECIONAL ADDRESSES OF A CONDUCTOR
0143	8713	888 0 75	0008	BOJA		SUB	RL			OP-CODES+REGIONAL ADDRESSES+PAIR ADDRESSES+
0144	803A	898 0 77	BOJA	BO4A		ATL				AS WELL AS SYMBOLIC ADDRESSES ARE KEPT IN THE SYMBOL TABLE. THERE ARE TWO EXITS DEPENDING
0145	BO4A	888 0 85	8714	805A		MUL#	10010	01001		ON WHETHER THE SYMBOL IS OR IS NOT IN THE
0146	805A	888 0 32	0600	806A		SHR	0600			TABLE. ALL REFERENCES TO THE SYMBOL TABLE
0147	806A	858 0 07	OHHH	807A		IIR	оннн			ARE MADE VIA SRCHE.
0148	807A	888 0 35	000C	ABOB		ERS	RX		51.	SCRAMBLE
							-		344	er to the error of the fie

0149									
0150	BOBA	888	0 30	83F8	9716		LDL	TEMP	&SR2
0151					4 , ••			A Sect 10	A 44 / 12
0152	8716	855	0 20	8717	GOOA	&SR2	SUF		RA
0153	9717	898	0 08		8715		LIRI	0000	-SR2
0154	8715	888	0 29		809A	-SR2		STAB	211-
0155	809A	888	0 82		810A		TEQ	3F	
0156	BIOA	888	0 70		8720		ADD		-SR1
0157	8719	888	0 99		9999		CON	99999	99999
0158	8721	888	0 00		BILE	&SR1	IIRI	0023	
0159	BILA	858	0 70		3715		ADD		-SR2
0160	8722	888	0 99		0000		CON	99900	00000
0161									
0162	8720	888	0 54	1000	81F8	-SR1	STLI	STAB	EXITI
0163	8718	858	0 29		BZFB	3		ETAB	EXIT2
0164	-					-			
0165									
0166									
0167			-						
0168									
0169									
0170									
0171									
0172									
0173									
0174	8723	888	0 50		812A	FARB#	STL	EXIT	
0175	812A	888	1 09		813A		LDX3	AH	
0176	813A		0 70		B14A		ADDA	00000	10000
0177	914A	886	0 60	BJFB	815A		STA	TEMP	
0178					***				
0179	B15A	888	0 31		8725		CLL		
0180	8725	888	0 50	-	816A		STL	PANIC	
0181	B16A B726	698	5 02		8726	•	LIRG	0000	2F
0183	8727		0 30		8727	2	LDL	RX	3F
0184	817A		0 25	8683	817A	3	STL	U0003	
0185	BIBA		0 82	8728 8729	818A 8730		LDA#	00000	00988
0186	3729	888		10h di 10h a			TEQ		35
0187	819A		0 82	86FH 8684	819A 820A		LDL	HTAG	
0188	820A	886		0008	8727		TEO	V0000	**
0189	8730		5 25	8680	BZIA	3	LDX	RL	38
0190	BZIA		5 82	8684	822A	J		U0000	
0191	822A		5 07	0001	8730			V0000	40
0192	8680		0 00	1000	0488	U0000	IIR6	0001	38
0193	8681		0 00	1000	0388	10001	CON	00100	00488
0194	8682		0 00	1000	0888	00002	CON	00100	00389
0195	8687		0 25	0008	823A	V0003	LDA	00100 RL	00988
0196	823A		0 75	COOA	824A	10003	SUB	RA	
0197	824A		0 31	8731	8731		CLL	7.A	
0198	8731		0 82	8732	825A		TEQ	15	
				4102	ULUA		154	47	

- THE SYMBOL IS CONVERTED TO A THREE-DIGIT NUM-BER TO INDICATE WHERE THE SEARCH WILL START.
- THIS SPEEDS UP THE SEARCH CONSIDERABLY.
- 52. SYMBOL : TABLE
- EQ: IF THE SYMBOL IS AT THIS PLACE IN THE TABLE. GO TONDEF.
- NEQI
- 53. TABLE: ZERO
- EQ: IF THE TABLE ENTRY IS ZERO, GO TO#54.
- NEQIOTHERWISE WE MOVE TO THE NEXT TABLE ENTRY
- AND RETURN TO#52.
- S4. NOT FOUND.
 - WE HAVE ENCOUNTERED A NEW SYMBOL SINCE THE
- TABLE IS INITIALLY ALL ZEROES.
- STORE THE NEW SYMBOL IN THE TABLE HERE AND GO TOMUNDEF.
- CODING DETAILS!
 - ON INPUT. RL IS THE SYMBOL. RA IS UNDEF. AND RX IS DEF. OUTPUT IN RB1 IS THE LOCATION IN THE TABLE. AND IF DEFINED THE EQUIVALENT OF THE SYMBOL APPEARS IN RA. THERE IS ROOM FOR 1000 SYMBOLS. IF THE 1001ST SYMBOL COMES ALONG. THE MACHINE LOOPS INDEFINITELY.
- F. FIND AND RESERVE BEST LOCATION (FARB+) THIS SUBROUTINE IS USED TO CHOOSE LOCATIONS FOR A M OR C ADDRESSES OF INSTRUCTIONS. THE CORRESPONDING H-FIELD IS INTERPRETED AND
- THE CHOICE IS MADE ON THIS BASIS.
- FI. EXAMINE H-FIELD
- C IF IT SPECIFIES C(CORE) GO TOMP4.
- IF IT SPECIFIES D(DRUM) OR IS BLANK.
 - GO TOMFS WITH REG SET TO O.
- H IIF IT SPECIFIES H(HIGH SPEED BANDS).
- GO TO#F3 WITH R86 EQUAL TO 2.
- NNN: THREE NUMERICS OR +NN MEANS A HAND-PICKED LEVEL OR A CHANGE IN LEVEL ON THE DRUM. TO#F2. NNITWO NUMERICS MEANS A HANDPICKED HIGH SPEED
- LEVEL. GO TOMF2. ERRIANY OTHER MEANS THE H-FIELD IS IN ERROR.
 - GO TO#F3 AND TREAT AS BLANK.

-								
0199	825A	888 0 30	8733	826A		LDL# 00000	00400	
0200	826A	858 0 82	8734	827A		TEO 3F		
0201	827A	888 1 OG	0001	828A		IIR3 0001		
0202	328A	888 0 30	8735	8736		LDL	ERR1*	
0203	8735	888 1 OG	9999	8684		IIR3 9999	V0000	
0204	8732	888 0 25	000B	829A	1	LDA RL		
0205	829A	888 0 70	8737	8738		ADD	-NU	
0206	8737	888 0 00	7000	0000		CON 00700	00000	
0207	8739	888 0 70	BJFB	BJOA	ANU	ADD TEMP		
0208	BJOA	888 0 60	BJFB	3584		STA TEMP	V0000	
0209	8738	888 5 07	9998	ASIA	-NU	IIR6 9998		F2. USE HAND LEVEL
0210	BJIA	888 0 60	BIFC	832A		STA PANIC		THE H-FIELD SPECIFIES A HAND PICKED LEVEL.
0211	BJZA	888 0 65	83F8	8740		STX TEMP	2F	THIS SUPERCEDES THE LEVEL CALCULATED
0212	8734	888 0 25	8741	BJJA	3	LDA# 00000	ОООНН	BY GADAAD. ALTHOUGH IT WILL BE CHECKED
0213	BJJA	388 0 60	BIFC	834A		STA PANIC		LATER BY THE AUST* ROUTINE.
0214	BJ4A	888 0 35	0000	BISA		ERS RX		Chick of the south motified
0215	835A	888 0 60	BJFB	8740		STA TEMP	2F	
0216	8740	888 5 07	9999	3684	2	11R6 9999	V0000	
0217	8684	888 1 07	0000	8742	V0000	IIR2 0000	2F	F3. ADJUST FOR PAIRS
0218	8686	888 1 07	0000	8742	V0002	IIR2 0000	2F	IF RB2 CONTAINS 5 AT THIS POINT WE HAVE
0219	8742	888 0 70	8743	9744	2	ADD	-F1	A PAIR ADDRESS. AND RB6 IS INCREASED BY I.
0220	8743	888 0 99	9995	0000	•	CON 99999	50000	THE CALCULATED LEVEL IS ADJUSTED 1 IF IT IS
0221	8744	888 0 26	8746	8746	-F1	CLA 3F	30000	A MINUS-PAIR ADDRESS. RB6 IS NOW EQUAL TO:
0222	8745	888 5 07	0001	836A	&F1	11R6 0001		OI LOOK ON DRUM
0223	BJOA	898 3 07	0000	8746	ar t	11R5 0000	3F	1: LOOK FOR PAIR ON DRUM
0224	8746	888 0 60	84F8	8747	3	STA TEMP1	-FARB	2: LOOK FOR HIGH SPEED
0225	9140	999 0 80	GALO	9/4/	•	SIM IEMMA	-FAILE	
0226								X 3: LOOK FOR PAIR ADDRESS IN HIGH SPEED AREA X THE SETTING OF R86 IS USED TO CONTROL THE
0227								X APPROPRIATE OPERATIONS BELOW. GO TOMPS.
0228	8685	888 1 07	0000	837A	V0001	11R2 0000		F4. ROOM IN CORE
0229	837A	888 0 70	8749	8750		ADD	-Fa	IF RB2 CONTAINS 5 WE HAVE A PAIR ADDRESS AND
0230	8749	888 0 99	9995	0000		CON 99999	50000	HUST RESERVE 2 LOCATIONS. OTHERWISE I LOCA-
0231	8750	888 0 07	0001	8752	-F8	11R 0001	1F	TION IN CORE. IF THERE IS NO ROOM LEFT IN
0232	8751	888 0 07	0002	8752	&F8	IIR 0002	iF	NO! THE BOOD-B999 AREA: A SEMICOLON ERROR
0233	8752	888 0 70	BJFC	BEES	1	ADD CORE	- · ·	INDICATION IS GIVEN AND WE TRY HIGH SPEED
0234	ABEE	888 0 05	OOOA	839A	•	LDX RA		ACCESS BY GOING TOMF3.
0235	839A	888 0 70		8754		ADD	-F9	YES:
0236	8753	888 0 99	9000	0000		CON 99900	00000	
0237	8754	888 0 65	BSFC	840A	-F9	STX CORE		F5. ASSIGN CORE ADDR.
0238	B40A	888 0 65	BAAB	841A		STX RB9		CALCULATE THE EQUIVALENT OF THIS ADDRESS
0239	841A	888 8 07	8999	342A		IIR9 8999		AND THE ADDRESS ONE LESS IN CASE OF A PAIR
0240	842A	898 0 60	8695	343A		STA 10001		ADDRESS. #EXIT.
0241	843A	888 8 07	0001	a756		11R9 0001	FAREX	WDDUE324 MEVIII
0242	8755	888 0 25	B758	844A	&F9	LDA# 00000	00003	
0243	844A	888 0 05	8759	8760	ar .	FDX COOLS	ERR2*	
0244	8759	858 0 00		8761		JMP	ENTER	
0245	8761	888 5 07	0001	8686			V0002	
0246	8747	888 0 25		845A	-FARB		10002	F6. INITIALIZE
0247	845A	898 0 37		346A	-F MNO			CALCULATE THE STARTING DRUM LEVEL. AND ALSO
0248	846A	858 0 70		347A		SHL 0400 ADD TEMP1		MAKE AN EXTRA COPY OF LEVEL 199 AS LEVEL -1
A P A M	STOR	0 0 0 10	ひっての	福刊 1 英		AND IEMPT		HAVE MA CUINA CALL OF FRASE 144 WO FEAST AT

0249	847A	888 0 77	847A	848A		ATL		
0250	848A	888 0 60	84AC	849A		STA FLAG		
0251	849A	888 5 00	8641	8641		JMP6 F0016		IN CASE OF PAIR ADDRESS PROCESSING.
0252	8642				60013		25	TH CHOC OF LATH MODILEGO LUCKESSING!
		888 0 85	8762	8763	F0017	MUL 15	2F	
0253	3641	888 0 85	8762	8763	F0016	MUL 1F	2F	
0254	8762	888 0 00	0000	OOAS	1	CON 00000	000A5	
0255	8763	88B 0 35	8764	850A	2	ERS# 0000H	H5000	
0256	BOOA	888 0 70	OODA	8765		ADD RA	3F	
0257	8643	888 0 35	8766	8765	F0018	ERS IF	3F	
0258	9644	888 0 35	8766	8765	F0019	ERS IF	3F	
0259	8766	888 0 00	OOCH	0000	1	CON OCCOC	H0000	
0260	8765	888 0 60	BEAB	851A	3	STA RB7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	s en
0261	851A	888 0 31	8767	8767		CLL		
0262	8767	888 0 25	8617	852A		LDA DOZOG		
0263	852A	888 0 60	8417	8768		STA 00000	-F2	
0264	8768	888 6 25	8418	853A	-F2		W. C	et tovievel
0265	BSJA		8629		-74			F7. TRY LEVEL
0266		888 5 00		8629	EADAS	JMP6 F0004	FOROM	OK: IF A DRUM ADDRESS SATISFYING ALL THE
	8630	888 6 35	8417	3629	F0005	ER\$7 00000	F0004	REQUIREMENTS INDICATED BY RB6 EXISTS ON THIS
0267	8631	888 6 20	8465	354A	F0006	BUF7 00051		LEVEL. GO TORF9.
0268	854A	868 6 20	8518	855A		BUF7 00101		NO 8
0269	855A	888 6 20	8568	3770		BUF7 00151	1F	
0270	8770	888 0 35	BUAB	8629	1	ERS HSB	F0004	
0271	8632	888 6 35	8417	356A	F0007	ERS7 00000		
0272	856A	888 0 05	COOA	857A		LDX RA		
0273	857A	888 6 25	8468	358A		LDA7 D0051		
0274	858A	888 6 35	8467	359A		ER\$7 00050		
0275	859A	888 0 20	000C	AOOB		BUF RX		
0276	BOOA	888 0 05	COOA	861A		LDX RA		
0277	BOLA	888 6 25	8518	862A		LDA7 DO101		
0278	862A	888 6 35	8517	363A				
0279	BOJA	898 0 20						
0280			000C	864A		BUF RX		
	864A	888 0 05	000A	865A		LOX RA		
0281	865A	888 6 25	8568	866A		LDA7 00151		
0282	866A	898 6 35	8567	867A		ER\$7 D0150		
0283	867A	888 0 20	0000	3770		BUF RX	18	
0284	8629	898 0 82	8771	8772	F0004	TEO	2F	
0285	8771	888 Q 25	BIFC	368A		LDA PANIC		F8. DRUM EXHAUSTED
0286	368A	888 0 82	B773	369A		TEO 3F		IF THE LEVEL WAS HAND CALCULATED. A SEMICOLON
0287	869A	888 0 50	BIFC	870A		STL PANIC		ERROR IS INDICATED THE FIRST TIME STEP F8
0288	BTOA	888 0 25	8774	871A		LDA# 00000	00006	IS EXECUTED.
0289	871A	888 0 05	8775	8760		LDX	ERR2*	YESIIF WE HAVE GONE ALL THE WAY AROUND THE DRUM.
0290	8775	888 0 00	8773	8773		JMP 3F		
0291	8773	888 6 07	0001	872A	3	11R7 0001		A SEMICOLON ERROR IS GIVEN AND THE ADDRESS
0292	872A	898 5 70	8645	8768	_	ADD6 F0020	-F2	0000 IS ASSIGNED. TO#FIL.
0293	8645	888 0 99	9800	0000	F0020	CON 99980	00000	PARTIF WE HAVE EXHAUSTED THE HIGH SPEED BANDS.
0294	8646	888 0 99	9800	0000	F0021	CON 99980		
0295		88B 0 99					00000	A SEMICOLON ERROR IS GIVEN AND WE TRY THE
0296	8647		9950	0000	F0022	CON 99995	00000	WHOLE DRUM GOING TOME 6.
	3648	886 0 99	9950	0000	F0023	CON 99995	00000	NO! OTHERWISE WE STEP TO THE NEXT DRUM LEVEL
0297	8769	888 0 25	B4AC	873A	&F2	LDA FLAG		AND RETURN TO#F7.
0298	873A	888 0 82	8776	874A		TEO 1F		

0299	874A	888	0	50	B4AC	875A		STL	FLAG	
0300	875A	888	6	02	0000	3768		LIR7	0000	-F2
0301	8776	888	0	25	8777	876A	1	LDA#		00000
0302	876A	888	0	05	8778	8760	-	LDX		ERR2*
0303	8778	888	0	00	8779	8779		JMP		
0304	8779	888	5	07	9998	877A		IIR6	9998	
0305	877A	888	0	70	8780	8747		ADD		-FARE
0306	8780	888	0	99	9998	0000		CON	99999	80000
0307	8748	888	0	26	8781	8781	SFARS	CLA		
0308	8781	858	0	60	8695	3756		STA	10001	FAREX
0309	8772	888	5	00	8633	8633	2	JMP6		
0310	8635	888	6	25	8418	8782	F0010	LDA7		1F
0311	8782	888	0	35	84AB	878A	1	ERS	HSB	
0312	878A	888	0	82	8783	3784	_	TEQ		2F
0313	8783	888	6	07	0050	8772		IIR7	0050	28
0314	8636	888	6	25	6418	379A	F0011	LDA7		
0315	879A	698	6	35	8417	3782		ERS7		18
0316	8633	886	6	25	8418	3784	F0008	LDA7		2F
0317	8634	858	6	25	8418	ACSE	F0009	LDA7		
0316	BOOA	358	6	35	8417	8784		ER57	00000	2F
0319	8784	888	0	05	COOA	381A	2	LDX	RA	-
0320	881A	888	0	35	8785	882A		ERS#		GGGGG
0321	882A	888	0	82	8786	BEJA		TEO	15	
0322	BBJA	856	0	35	8787	384A		ERS#		99999
0323	884A	888	0	82	8788	885A	•	TEQ	25	
0324	385A	888	0	35	8789	386A		ERSA	55555	55555
0325	886A	838	0		B790	887A		TEG	3F	
0326	887A	888	0	25	8791	8792		LDA		45
0327	8791	888	0	CH	HHHH	HHHH		CON	CHHHH	HHHHH
0328	8790	888	0	25	8793	ASSE	3	LDAN	BHHHH	HHHHH
0329	BOSA	888	0	30	8794	8792		LDL		4F
0330	8794	888	0	00	2000	0000		CON	00200	00000
0331	8788	888	0	25	8795	8894	2	LDAN	FHHHH	HHHHH
0332	889A	888	0	30	8796	8792		LOL		4F
0333	8796	898	Q	00	4000	0000		CON	00400	00000
0334	8786	888	0	25	8797	SOOA	1	LDA#	GHHHH	HHHHH
0335	890A	888	0	30	8798	8792		LDL		47
0336	8798	888			6000	0000		CON	00600	00000
0337	8792	888		50	BABB	991V	4	STL	R89	
BEEC	891A	888	_	30	000C	892A		LDL	RX	
0339	892A	888	0	05	8799	8800		LDX		1F
0340	8799	888		HH	HHHH	HHHH		CON	ННННН	HHHHH
0341	8800	888	Q	60	82FC	893A	1	STA	MASK	
0342	893A	356	0	35	0008	894A		ERS	RL	
0343	894A	358	0	82	8801	8802		TEQ		1F
0344	8801	856	8	07	0200	395A		IIR9	0200	
0345	895A	888	0	25	B2FC	A96A		LDA	MASK	
0346	896A	888	0	32	0100	8800		SHR	0100	18
0347	8802	888		00	8637	8637	1		F0012	
0348	8639	838	0	25	6418	897A	F0014	LDA7	D0001	

F9. CALCULATE ADDRESS

WE TRY TO FIGURE OUT WHAT DRUM ADDRESS WE
HAVE FOUND. PICKING THE SMALLEST ACCEPTABLE
ADDRESS ON THIS LEVEL. A SINGLE WORD OF
40 BITS IS KEPT FOR EACH DRUM LEVEL.
CORRESPONDING TO BANDS OF THRU 78. THE 5-BITS
COVER BANDS OF THRU 18. 4-BITS 20 THRU 38.
AND SO ON.

FIO.RESERVE ADDRESS.

FOR A PAIR ADDRESS THE ADDRESS IN THIS BAND

0349	897A	888 0 35	B2FC	3637		ERS	MASK	F0012	
0350	8638	888 6 25		8803	F0013	LDA7	00000	1F	
0351	8640	888 6 25		8503	F0015	LDA7	D0000	1F	
0352	8803	888 0 35		898A	1	ERS	MASK	A 7	
0353	398A	888 6 60		8639	•	STA7	D0000	F0014	
0354	8637	888 6 60		899A	F0012	STA7	D0001	,	
0355	899A	888 0 25		BOOF	, 0000	LDA	00000		
0356	BOOF	888 0 35		801F		ERS	00200		
0357	801F	888 0 60	-	802F		STA	00200		
0358	802F	888 6 07		303F		IIR7	0000		
0359	BOJF	888 0 31		8804		CLL	0000		
0360	8804	888 0 82		8806		TEO		1F	F1
0361	8805	888 0 07		8807		IIR	0199	2F	, .
0362	806	888 0 75		8807	1	SUB		2F	
0363	8088	888 0 00		0000	-	CON	00000	10000	
0364	8807	888 0 70		804F	2	ADD	R59	-	
0365	BO4F	888 0 60		905F		STA	10001		CO
0366	805F	888 6 07		306F		IIR7	0000		
0367	806F	888 0 70		8756		ADD	R89	FAREX	
0368	8756	888 0 06		8809	FAREX	CLX	- 196	, , , , , , , , , , , , , , , , , , , ,	
0369	8809	838 0 60		807F		STA	10000		
0370	807F	888 0 60	-	BOSF		STA	10002		
0371	BOSF	888 0 32		BOFB		SHR	0400	EXIT	
0372	9810	888 1 29		309F	FIND*	LDAJ			Q.
0373	809F	888 0 65		BIOF		STX	DEFX		
0374	BIOF	888 0 50		811F		STL	UDEFX		
0375	811F	858 0 60		8125		STA	SYMBL		
0376	812F	888 0 30		313F		LDL#	00000	88888	
0377	813F	888 0 82		914F		TEO	BLNK		01
0378	814F	898 0 30		815F		LDL#	20000	88888	BLI
0379	815F	888 C 82	5614	816F		TEQ	SELF		**
0380	816F	888 0 35	8815	817F		ERS#	H0000	C000H	RE
0381	817F	888 0 30		818F		LOL#	00000	80000	AB:
0382	818F	888 0 82	6817	819F		TEO	ABS		
0383	819F	888 0 25		320F		LDA	SYMBL		NE
0384	820F	888 0 35		821F		ERS#	00000	03333	NB
0385	821F	998 0 CI		822F		MTX			NI
0386	822F	888 0 20		823F			OHHHH	00000	4 (
0387	823F	888 0 35		924F		ERS	SYMBL		NX
8850	824F	888 0 35		825F			ОНННН	04444	
0389	825F	888 0 31		8821		CLL			SYP
0390	8821	888 0 50		926F		STL	INCRE		
0391	826F	898 0 82		827F		TEQ	REG		
0392	827F	888 0 25		328F		LDA	SYMBL		
0393	828F	888 0 35		829F			00000	H0000	
0394	829F	898 0 60		830F		STA	RBS		
0395	BJOF	BBB 0 35		3315			00000	30000	
0396	931F	898 0 C1		332F		MTX			
0397	832F	888 0 20		833F		BUFA	НННН	ОНННН	
0398	833F	888 0 35	89FB	834F		ERS	SYMBL		

ON TWO ADJACENT LEVELS IS RESERVED.

OTHERWISE A SINGLE ADDRESS IS RESERVED. BY
TURNING ITS SIT OFF IN THE TABLE. AFTER THE
OPERATION, LEVELS -1 AND 199 ARE COMBINED
AS LEVEL 199.

F11.FINISH UP

CALCULATE THE ADDRESS ADJACENT TO THE ONE
FOUND IN CASE OF A POSSIBLE MINUS-PAIR
ADDRESS. ANDMEXIT.

CODING DETAILS:
INDEX REGISTERS 1 2 AND 3 ARE NOT CHANGED BY
FARB*. ON INPUT THE H FIELD IS SPECIFIED
BY RB3. THE CALCULATED BEST DRUM LEVEL IS IN
RA. AND THE EXIT IS IN RL. THE OUTPUT
LOCATION FOUND IS IN RA AND AN ADJACENT
LOCATION IS STORED IN A SPECIAL TABLE.

MASTER ADDRESS CALCULATOR (FIND*)
THIS SUBROUTINE IS GIVEN THE CONTENTS OF
THE SYMBOLIC A.M. OR C FIELD OF THE CARD AND
ANALYZES IT. THERE ARE TWO EXITS. ACCORDING
TO WHETHER THE ADDRESS IS DEFINED OR NOT.

gi. What Kind Blk:if blank go to#q2.

: IF SELF: GO TOWQ3. EG: IF FOUR RIGHTHAND PARTS ARE NUMERIC: TOWG4. BS: IF THE LEFTMOST CHARACTER IS BLANK: HOWEVER:

GO TO#95. NF: IF LOCAL FORWARD ADDRESS: TO#97. NB: IF LOCAL BACKWARD ADDRESS: TO#98.

IF LOCAL PLAIN ADDRESS N. TONGO.

HAR IF PAIR ADDRESSISET RB2 TO 5 AND GO TO#GIO.

IX: IF THE SYMBOL FAILS TO PASS THE ABOVE AND BEGINS WITH A NUMERIC. GO TO#G6.

SYMIOTHERWISE IT IS SYMBOLIC: WE SET REZ TO 4 AND GO TO#Q10.

0399	834F	888 0 35	8826 83		ERS# HHHHH	4HHHH	
0400	835F	888 0 30	8827 83		LDL# 01000	06888	
0401	836F	888 0 82	8828 83	7 F	TEQ LOCF		
0402	837F	88B 0 30	8829 83	8F	LDL# 01000	02888	
0403	838F	888 0 82	8830 83	9F	TEQ LOCB		
0404	8 39 F	888 0 30	8831 84	OF	LDL# 00000	08888	
0405	840F	888 0 82	8632 84	15	TEG LOCL		
0406	841F	888 0 25	89FB 84	2F	LDA SYMBL		
0407	842F	888 0 35	8833 84	3F	ERS# H0000	H0000	
0408	843F	888 0 30	8834 84	4#	LDL# 10000	CO000	
0409	BULF	888 0 82	8835 84	5F	TEQ PLUS		
0410	845F	888 0 30	8836 84	6F	LDL# 00000	¥0000	
0411	846F	858 0 82	8837 84	7F	TEO MINUS		
0412	847F	888 0 31	8838 38	38	CLL		
0413	8838	888 0 35	8839 84	8F	ERS# H0000	00000	
0414	848F	888 0 82		9F	TEG ADERR		
0415	849F	888 1 02	0004 85	41	LIR2 0004	LOOK 1	
0416	8837	888 3 02	0001 38	42 MINUS	LIR5 0001	1F	
0417	8835	888 3 02	0000 88	42 PLUS	LIRS 0000	1F	
0418	8842	888 1 02	0005 38	41 1	LIR2 0005	LOOK 1	
0419	8812	888 0 31	8843 88	43 BLNK	CLL		92. BLANKIZER
0420	8843	888 0 25	84FC 85	OF	LDA BLANK		EQLIIF BLANK
0421	850F	888 1 02	0002 88	44	LIR2 0002	FEX	UNDEFINED
0422	8844	888 0 82	88F8 87	FB FEX	TEO UDEFX	DEFX	NEQ: ELSE TON
0423	8814	88B 0 25	85FC 87	F8 SELF	LDA ALOC	DEFX	Q3. 'A' LOCAT
0424							X THE * IS
0425							X IF IT APP
0426							X IT IS THE
0427							X TOFOEF.
0428	8622	888 0 25	89F8 35	IF REG	LDA SYMBL		Q4. CHANGE TO
0429	851F	888 0 35	8845 85	2F	ER5# 00000	OHHHH	CHANGE TH
0430	852F	888 0 60	BOFC 85	3 F	STA INCRE		RB2 TO ZE
0431	853F	988 0 25	89FS 85	45	LDA SYMBL		IN THE SY
0432	354F	888 0 35	8846 85	5F	ERS# H0000	H0000	3.1 <u>-</u>
0433	855F	888 1 02	0000 88	47	LIR2 0000	LOOK	
0434	3817	888 0 25	89F8 85	OF ABS	LDA SYMBL		95. PROCESS A
0435	856F	888 0 31	8848 88	48	CLL		BADIIF ANY PA
0436	8848	888 0 35	8849 85	7 F	ERS# 02222	00000	HAS ZONES
0437	857F	858 0 82		40	TEQ	ADERR	USE THE Z
0438	8850	888 0 25	89F8 85	af	LDA SYMBL		OKI AND SEND
0439	858F	888 0 35	8851 85	9F	ERS# HHHHH	OHHHH	
0440	859F	888 0 75		OF	SUB RA		
0441	860F	888 0 82		40	TEO 1F	ADERA	
0442	8840	888 0 30		36 ADERR	LDL	ERA1+	G6. ERROR
0443	3853	888 0 26		FB	CLA DEFX		SET UP ER
0444	9852	888 0 25		1F 1	LDA SYMBL		AND SET T
0445	861F	888 0 35		2 F	ERS# 01111	00000	entrue office t
0446	862F	898 0 70		3F	ADD RA		
0447	863F	888 0 70		45	ADD RA		
0448	864F	888 0 32		5 #	SHR 0500		
					Will Garage		

Q2. BLANK: ZERO
EQL: IF 'BLANK' IS ZERO, THE BLANK ADDRESS IS

UNDEFINED; AND WE GO TOMUNDEF;

NEQ: ELSE TOMDEF.

Q3. 'A' LOCATION

X THE # IS DEFINED AS THE VALUE OF A LOCATION.

X IF IT APPEARS IN A, OR IN CERTAIN CONTROL OPS

X IT IS THE VALUE OF THE PRECEDING A LOCATION.

X TOMDEF.

Q4. CHANGE TO ROODO.

CHANGE THE REGIONAL ADDRESS TO ROODO AND SET

RB2 TO ZERO. WE GO THEN TO LOCK THIS UP

IN THE SYMBOL TABLE: AT STEP#Q10.

G5. PROCESS ABS ADDR.
BAD: IF ANY PART OF THE ADDRESS IS BLANK OR
HAS ZONES OF 2 OR 3: GQ TOWQ6. OTHERWISE
USE THE ZONES TO PRODUCE UNDIGITS FOR ABCFGH.
OK: AND SEND THE RESULTING ADDRESS TOWDEF.

96. ERROR
SET UP ERROR FLAG FOR CURRENT FIELD
AND SET THE ADDRESS TO ZERO. TOMBEF.

0449	865F	888 0 20	B9FB	866F		BUF	SYMBL		
0450	866F	888 0 35		87F8		ERS		DEFX	
0451	8855	388 0 00		HHHH			00000	ОНННН	
0452	8828	888 3 25		867F	LOCF		10000	• • • • • • • • • • • • • • • • • • • •	97. I(N):ZERO
0453	867F	888 0 31	8856	8856		CLL			EQ: IF THE FORWARD LOCAL TABLE ENTRY FOR N IS
0454									X ZERO IT IS UNDEFINED . WE GO TOHUNDEF. ELSE IT
0455	8856	888 1 02	0001	8844		LIR2	0001	FEX	NEQ: IS DEFINED AND#DEF.
0456	9830	888 3 25	8659	368F	LOCB	LDAS	J0000		GB. J(N) IZERO
0457	868F	888 0 31	8857	8857		CLL			EQ: IF THE BACKWARD LOCAL TABLE ENTRY FOR N IS
0458									X ZERO IT IS UNDEFINED AND WE GO TOMOS SINCE
0459									X THIS SHOULDNOT HAPPEN. ELSE IT IS A
0460	8857	888 0 82	8840	87F8		TEG	ADERR	DEFX	NEGIDEFINED ADDRESS WHICH IS SENT TOMOEF.
0461	8832	898 3 25	8649	869F	LOCL	LDA5	10000		99. I(N):ZERO
0462	869F	888 0 31	8858	8858		CLL			EQ: IF THE FORWARD LOCAL TABLE ENTRY FOR N IS
0463	8858	888 3 50		870F		STLS	10000		ZERO THIS ADDRESS IS UNDEFINED. GO TOMUNDEF.
0464	870F	888 1 02		371F					NEGIELSE IT IS DEFINED AND WE TRANSFER IT TO THE
0465	871F	856 0 82		872F		TEQ	UDEFX		BACKWARD LOCAL TABLE AND EXIT TOWNER.
0466	872F	888 3 60		87F8		STAS	10000	DEFX	IN EITHER CASE RESET FORWARD LOCAL ENTRY O.
0467	8841	888 0 25		8847	LOOK 1		SYMBL	LOOK	Q10.SRCH*
0468	8847	898 0 77		373F	LOOK	ATL	_		SEARCH FOR THE ITEM IN THE SYMBOL TABLE.
0469	873F	35B 0 25		874F			UDEFX		defilf found.go to#def.adjusting for regional
0470	874F	898 0 05		8712		LDX		SRCH*	ADDRESS IF NECESSARY. IF NOT FOUND. WE GO
0471	8859	888 0 70		875F		ADD	INCRE		UND: TO #UNDEF.
0472	375F	888 0 35		87F8		ERS		DEFX	
0473	8860	858 0 00	0000	HHHH		CON	00000	OHHHH	
0474									CODING DETAILS!
0475									X INPUT TO FIND* IS DEF IN RX AND UNDEF IN RL.
0476									X RB3 CONTAINS THE FIELD TO BE EXAMINED.
0477									AT EXIT DEF. RA CONTAINS THE DEFINED
0478 0479									X EQUIVALENT IN ITS C ADDRESS POSITION.
0480									X AT EXIT UNDEF. RB2 CONTAINS INFORMATION
									X ABOUT THE TYPE OF ADDRESS AS FOLLOWS:
0481 0482									O : REGIONAL
0483									X 11 LOCAL FORWARD N IS IN RB5
0484									X 21 BLANK
									X 31 LOCAL PLAIN N IS IN RB5
0485 0486									X J: SYMBOLIC SPOT IN SYMBOL TABLE IS RB1
0487	2841	300 1 00	8416	2410	Defin.	***			X K: PAIR ADDRESS RBB IS O FOR & 1 FOR
0468	2001	998 1 00	DOTA	801A	DEFN*	JMP2	£0000		D. DEFINE ADDRESS (DEFN#)
0489									X THIS SUBROUTINE IS USED AFTER FIND+ HAS
0490									X DETERMINED AN ADDRESS IS UNDEFINED. IF THIS
0491									X IS NOT AN ERROR CONDITION. SOME WAY OF
0492									X CALCULATING AN ADDRESS, USUALLY FARB+, IS
0493	8619	888 0 05	000A	376F	E0000	LOX	25 4		X USED AND THEN THIS ROUTINE DEFN# TAKES OVER.
0494	876F	858 0 25		a77F	2000		00000	10000	DI. WHAT TYPE
0495	877F	888 0 75		378F				10000	REGIST THE ADDRESS TO BE DEFINED IS REGIONAL.
0496	878F	89B 0 32					INCRE		GO TOND2.
0497	879F	888 0 70		379F		SHR	0F00		NF: IF LOCAL FORWARD ENTER IN I TABLE ANDHEXIT.
0498	880F	888 0 35		880F			RX	EOGDII	BLKIIF BLANK . ENTER IN 'BLANK' ANDHEXIT.
V7 / W	SACE	999 U 33	500)	8623		ERS		E0004	N: IF LOCAL PLAIN, ENTER IN J TABLE ANDMEXIT.

-		_							
0499	8863	888 0 00	0000	HHHH		CON	00000	ОНННН	SYMIF SYMBOLIC. ENTER IN EQUIVALENTS TABLE. #EXIT
0500	8620	888 3 60		0008	E0001	STAS	10000	RL	+-: IF PAIR ADDRESS: GO TO#D3.
0501	8621	388 0 60	84FC	000B	E0002	STA	BLANK	RL	D2. CALCULATE BASE
0502									X REGIONAL ADDRESSES ARE DEFINED ONLY BY
0503									X CONTROL OPS LIKE BLR. THE DEFINING ADDRESS
0504									X MINUS THE INCREMENT. THE ADDRESS CORRESPON-
0505									X DING TO ROODO IS STORED IN THE
0506									X EQUIVALENTS TABLE. WEXIT.
0507	8622	888 3 60	-	0008	E0003		70000	RL	
0508	8623	888 0 64		0008	E0004		BATS	RL	
0509	8624	888 0 50		881F	E0005	STL	DEXIT		D3. STORE TWO.
0510	881F	888 3 25		882F			10000		THE DEFINED ADDRESS IS STORED IN THE SYMBOL
0511	862F	858 0 06		3864		CLX			TABLE. THEN & IS CHANGED TO - OR VICE VERSA
0512	8864	888 0 32		883F		SHR	0400		AND THAT SYMBOL PLUS ITS EQUIVALENT ARE ALSO
0513	883F	888 O 64		884F			ETAB		STORED AWAY. THE ASSUMPTION IS MADE THAT
0514	884F	888 0 60		885F		STA	TEMPL		FARB* WAS USED TO CALCULATE THE ADDRESSES.
0515	885F	88B Q 29		386F			STAB		#EXIT.
0516	886F	888 3 00	4.	8697	1.000	JMP5	10003	. =	CODING DETAIL!
0517	8697	888 0 35		8866	10003	ERS	a sustant	1F	THE EXIT IS INPUT IN RL AND THE CALCULATED
0518	8865	888 0 OH		НННН	1.0004	CON	ОНННН	АННН	ADDRESS IN RA. OTHER INPUTS ACTUALLY USED
0519	8698	858 0 20 858 0 10		3866	10004	BUF	10000	1F	ARE RB2 TO TELL THE TYPE. AND RB1 AND RB5 TO
0521	8867			0000	•	CON	10000	C0000	GIVE EXTRA INFORMATION AS SUPPLIED BY THE
0522		888 0 77		887F	1	ATL		#DAUA	FIND+ SUBROUTINE. AT EXIT. RA CONTAINS THE
0523	887F 8868	888 0 25		8712		LDA		SRCH+	DEFINED EQUIVALENT.
0524	8869	888 0 00		8869		JMP	10001		
0525	Basf	888 0 06	_	888F		LDAS	10001		
0526	8870	888 0 32		3870 38 9 F		CLX. SHR	0400		
0527	889F	888 0 64		890F		STAI	EATE		
0528	890F	888 0 25		88FC		LDA	TEMPI	DEXIT	
0529	8871	888 0 50		891F	AJST+	STL	EXIT	Marke 1	A. AJST* SUBROUTINE.
0530				2000	7.00	J			X THIS SUBROUTINE IS PART OF THE WAY GADAAD
0531									X FINDS LATENCY. AUST# IS USED ON H AND C
0532									X ADDRESSES. FIRST AN OPTIMUM LEVEL
0533									X 'OPTIM' IS CALCULATED BY GADAAD! AUST# USES
0534									X THIS TO FIND THE CURRENT LEVEL. GIVEN THE
0535									X ACTUAL H OR C ADDRESS.
0536	891F	888 0 30	COOA	892F		LDL	RA		AL. WHAT TYPE ADDRESS
0537	892F	888 0 25	8872	8873		LDA		8F	OOOA IF THE ASSIGNED ADDRESS D HAS ANY UNDIGITS
0538	8872	888 1 00	0000	0000			00000	00000	IT IS ASSUMED TO BE IMMEDIATE ACCESS AND
0539	9873	888 0 70	0008	893F	8	ADD	RL		OPTIMO IS THE ANSWER. MEXIT.
0540	893F	888 0 82	8874	894F		TEO	1F		4000 IF THE ASSIGNED ADDRESS D IS ON THE HIGH-
0541	394F	888 0 25	89FH	BOFB		LDA	OPTIM	EXIT	SPEED BANDS. GO TOHAZ.
0542	8874	888 0 60		895F	1	STA	TEMP1		ODDOIF THE ASSIGNED ADDRESS D IS ON THE STANDARD
0543	895F	888 0 70		896F		ADDA		10000	PART OF THE DRUM. D IS THE ANSWER. GO TOWAS.
0544	896F	888 0 75		897F		SUB	MITTO		A2. FIGURE DRUM ROLL
0545	897F	888 0 60		898F		STA	TEMP		THE ANSWER IS D-OPTIM MODULO 50.
0546	898F	888 0 25		899F		LDA	RL	****	ADDED TO OPTIM.
0547	899F	888 0 35		3877		ERS#		0H000	
0548	8877	888 0 30	BAAB	8878		LDL	H581		

0549	8878	888	0 -8	2 8879	8880		TEG	1F	
0550	8880	898	0.3	0 83F8	5881		LDL	TEMP	
0551	1986	888		5 8882	8883		MULH	00000	0AQ05
0552	8883	888		3000 0	3884		LOL	RX	
0553	8884	388		5 8885	8886		LDA	••••	2 F
0554	8885	888		9 0A00	0000		CON	990A0	00000
0555	8879	898		5 83FB	3887	1	LDA	TEMP	
0556	8887	888		5 8888	3889	•	ERSA	00000	OOOCH
0557	8889	358		7 8889	8890		ATL	00000	
0558	8890	888		0 89FH	8891		ADD	OPTIM	
0559	8891	888		0 84FB	3892		STA	TEMP1	
0560	8892	888		5 8893	3886		LDA	1 42.00	2F
0561	8893	858		0000	0048		CON	00000	00048
0562	8886	888		7 8894	8895	2	TGR	1F	
0563	8895	888		5 8896	8897	-	LDA#	00000	0000A
0564	8897	888		5 8894	8760		LDX	1F	ERR2*
0565	8894	888		5 84F8	3898	1	LDA	TEMPI	
0566	8986	888		5 8899	BOFB	_	ERS	1 44. (*	EXIT
0567	8899	888		0 0000	ОННН		CON	00000	ООННН
0568	8900	688		0 8901	3903	OTPT*	STL	-OEX	
0569	8903	888		7 8903	8904		ATL		
0570	8904	886	0 2	5 BJAC	3905		LDA	LINEO	
0571	8905	888	0 2	0 8906	GOOA		BUF		RA
0572	8906	898	0 0	8 0000	8907		LIRI	0000	
0573	8907	888	0 6	9 4803	3908		STX1	70003	
0574	8908	888	0 5	0 84FB	8909		STL	TEMP1	
0575	8909	888	0 6		8910		STX	TEMP2	
0576	8910	898	0 0	G 0004	3911		IIR1	0004	
0577	3911	888	0 6	O BJAC	3912		STA	LINEO	
0578	3912	888	0 5	4 4797	3913		STLI	79997	
0579	8913	858	0 7	0 8914	3901		ADD		-0EX
0580	8914	358	0 9	9 9800	0000		CON	99980	00000
0581	8902	856	0 6		3915	BOEX	STA	LINEO	
0582	8915	888		5 8916	8917		LDX	2F	
0583	8917	888	0 3	0 8918	8919		LOL		TSUB#
0584	9918	888	0 C		9916		TBL	70000	2F
0585	9919	888	OH		8901	2	TWR	OTAP1	-OEX
0586	8920	388			3921	UNDG+	STX	EXIT1	
0587	8921	888			8922		LDX	RA	
0588	8922	898			8924			33333	33333
0589	8924	355			8925		MTX		
0590	8925	888			3926		ERS	RX	
0591	8926	888			3928			44444	44444
0592	8928	898			8930			44444	44444
0593	8930	858			8931		ATL		
0594	3931	888			8933			88888	88888
0595	8933				8934		ERS	RX	
0596	8934	888			8935		LDX	RA	
0597	8935	888			8937			11111	11111
0598	8937	898	0 3	5 0008	31F8		ERS	RL	EXITI

A3. CHECK BAD TIMING.

IF D COMPARED TO OPTIM INDICATES A WAIT OF

48 OR 49 ON HSB OR OF 198 OR 199 ON REST OF

DRUM, THE ERROR FLAG - IS PUT ON THE LISTING.

CODING DETAILS:

INPUT IS THE ASSIGNED ADDRESS IN RA AND THE

EXIT IN RL. OUTPUT IN RA IS SOME LOCATION

ON THE APPROPRIATE DRUM LEVEL.

#EXIT.

- O. OUTPUT SUBROUTINE.
 THIS ROUTINE IS USED TO TRANSMIT AN ASSEMBLED INSTRUCTION TO THE OUTPUT TAPE.
- O1. TRANSFER
 THE LOCATION IS IN THE FORM RRROSOMANA WHERE
 RRR ARE RELOCATION DIGITS COPIED FROM THE
 CARD. S IS THE ASSEMBLED SIGN. AND AMAM IS
 THE ASSEMBLED LOCATION. MOVE THE LOCATION
 AND THE ASSEMBLED INSTRUCTION INTO THE
 OUTPUT BUFFER.
- 02. BUFFER FULL
 NO! IF THE BUFFER DOES NOT HAVE 50 INSTRUCTIONS:
 MEXIT.
- YES:
 03. WRITE TAPE
 WRITE THE BUFFER OUT ON THE OUTPUT TAPE AND
 CLEAR THE BUFFER AGAIN. #EXIT.
- G THIS IS AN EDITING SUBROUTINE WHICH TAKES
 G A TEN DIGIT WORD IN RA AND PRODUCES IN
- G COMPUTER CODE THE CONVENTIONAL NOTATION FOR
- UNDIGITS: ABCFGH. THE ZONE WORD IS PUT INTO

-												
0599							4 41 15.5					·
0600	4200	888 0	26	4203	4203	ETADT	ннн		H			
- 0601	4201	888		4203	4203	START STRT	CLA	1F			E.	EDIT INPUT CARD.
0602	4203	888		BOFG	4207	1	CLA	1F				
0603	4207	888		BOFC	4211	•	STA	R				THIS IS WHERE THE PROCESSING OF EACH CARD
0604	4211	888		86FB	4215		STA	SIGN				STARTS. THE PURPOSE IS TO TAKE THE INFOR-
0605	4215	888		8001	4220		STA	ERROR				
0606	4220	888		000A	4224		LDAI					MATION FROM THE INPUT TAPE AND TRANSFER IT
0607	4224	888		BIFG	4029		LDX	RA				TO THE PRINTER AREA READY TO BE PRINTED AND
0608	4029	888		4231	4233		SUB LDL#	LINE		00001		ALSO EDIT IT INTO A FORM MORE DIGESTIBLE FOR
0609	4233	888 0		4036	4236		-			00001		ASSEMBLY PROCESSING.
0610	4236	888		1111	4036		TEQ	1F		1.5		THE CARDS ARE REPRESENTED AS 20 WORDS ON
0611	4036	888		BIFG		1	HLT	1111		1F		TAPE. A ZONE WORD IMMEDIATELY PRECEDING ITS
0612				w &1 G	1040	•	217	LINE				CORRESPONDING NUMERIC.
0613											X	0.1 LINE NUMBER
0614											X	2.3 A AR AH AS 1111123330
0615											X	4.5 M MR MH AS 1111123330
0616											X	6.7 C CR CH AS 1111123330
0617											X	8+9 OP IR AS 1112000000
0618	4040	888 0	29	8003	4045		LDA1	8003			X.	10-19 REMARKS AS 0111111
0619	4045	888 0		8009	4400		LOXI					CHECK LINE NO.
0620	4400	888 0		0500	4208		SHR	8009			SAD	HIF THE LINE NUMBER IS NOT EXACTLY I HIGHER
0621	4208	888 0		4210	4212			0500		00000		THAN THE PRECEDING. STOP THE MACHINE AND
0622	4212	888 0		0334	4436		STA	0334		00000	eld a	THEN RETURN TORES.
0623	4436	888 0		0000	4240		LDA	RX			OK:	
0624	4240	888 0		4042	4044			00008		00000	£2.	TRANSFER
0625	4044	888 0		0218	4420		STA			00008		MOVE THE LEFT HALF OF THE CARD TO THE PRINTER
0626	4420	888 0		8002	4225		LDAI	0218				AREA EDITING IT SLIGHTLY FOR READABILITY.
0627	4225	888 0		8008	4230		LDXI	8008				
0628	4230	888 0		0500	4038		SHR	0500				
0629	4038	888 0		0339	4041		STA	0339				
0630	4041	888 0		0223	4425		STX	0223				
0631	4425	888 0	29	8007	4430		LDAI	8007				
0632	4430	888 0	20	4232	4234		RUFA	00000		00008		
0633	4234	888 0	09	8006	4039		LDX1	8006		00000		
0634	4039	888 Q	60	0241	4043		STA	0241				
0635	4043	888 0	65	0246	4048		STX	0246				
0636	4048	888 0	29	8005	4403		LDAI	8005				
0637	4403	888 0		4205	4407			00000		0000B		
0638	4407	888 0	09	B004	4412		LDX1	8004		40000		
0639	4412	888 0	60	0303	4405		STA	0303				
0640	4405	888 Q	65	0308	4410		STX	0308				
0641							HHH		С			
0642	4410	35B 1	02	0000	8938		LIR2	0000	•	-ST	F1.	CEBIOATE ARE O. II
0643	8938	888 0		8003	8940	~ST	LDAI	8003		-31	630	SEPARATE OFF R. H.
0644	8940	888 0		8941	8941	-	CLX	9003				EDIT THE A-AR-AH-M-MR-MH-C-CR-CH, CHANGING
0645	8941	888 0		0500	8942		SHR	0500				THE SYMBOLIC PORTION TO A SINGLE WORD WITH
0646	8942	388 1		8699	8943			30000				THE ZONES AT THE LEFT: ZZZZZNNNNI
0647	8943	888 0	25	BOFG	3944			R				ACCUMULATE THE R DIGITS. AND PUT THE
0648	8944	898 0		0900	8945		SHR	ົ 0900				H-FIELD INTO THE FORM COZZZOONNN.
							SET TES					

0649	8945	888 0 65	BOFG	8946		STX	R			
0650	8946	888 0 06	8947	8947		CLX				
0651	8947	388 Q 32	0700	8948		SHR	0700			
0652	8948	888 1 60	8707	8949		STAZ				
0653	8949	888 0 29	8002	8950		LDAI				
0654	8950	888 0 35	8951	3952			ННННН	00000		
0655	8952	888 1 60	8700	8953			30001	,0000		
0656	8953	888 1 20	8699	8954			30000			
0657	8954	858 1 60	8706	8955		STAZ				
0658	8955	888 0 29	8002	8956		LDAI				
- 0659	8956	856 0 37	0400	8957		SHL	0400			
0660	8957	888 0 35	8958	8959			ООННН	00000		4
0661	8959	888 1 20	8707	8960		BUF2				
0662	8960	88B 1 60	8707	8961		STA2				
0663	8961	888 0 OG	0002	8962		IIRI				
0664	8962	388 1 07	0002	8963		IIR2				
0665	8963	888 0 70	8964	8938		ADD		-ST		
0666	3964	888 0 99	9994	0000		CON	99999	40000		
0667						HHH	H			
0668	8939	888 0 29	8004	4244	&ST	LDAI			E4.	MOVE COMMENTS
0669	4244	888 0 60	8669	4248		STA	R0000			MOVE THE REMARKS FIELD INTO REGION R.
0670	4248	858 0 29	B005	4603		LDA1				
0671	4603	358 0 20	4605	4607		SUF#		00000		
0672	4607	888 0 60	8670	4411		STA	R0001			
0673	4411	88B 0 29	8006	4016		LDAI				
0674	4016	88B 0 60	3671	4620		STA	R0002			
0675	4620	888 0 29	8007	4625		LDAI				
0676	4625	888 0 60	8672	4229		STA	R0003	•		
0677	4229	858 0 29	8008	4434		LDAI				
0678	4434	BBB 0 60	8673	4238		STA	R0004			
0679	4238	898 0 29	8009	4243		LDAI				
0680	4243	898 0 60	8674	4047		STA	R0005			
0681	4047	888 0 29	8010	4202		LDAI				
0682 0683	4202	888 0 60	8675	4206		STA	R0006			
	4206	888 0 29	8011	4611		LDAI				
0684 0685	4611	888 0 60	8676	4415		STA	R0007			
0686	4415	888 0 29	8012	4070		LDAI				,
0687		888 0 60	8677	4424		STA	R0008			
0688	4424	888 0 60	8013	4429 4433		LDAI				
0689	4433	888 0 25	8701	4037		STA	R0009 30002			
0690	4037	858 0 37	0500	4245			0500		CE.	CONSTRUCT CONSTANTS
0691	4245	888 0 20	8703	4049		SHL	30004		634	PUT TOGETHER THE M AND C FIELDS INTO
0692	4049	888 0 60	82FG	4053						
0693	4053	888 0 25	8704	4057		STA LDA	MCN 30005			POSITIVE CONSTANTS MC+MCZ+AND MCN AS THE CON NUM ZON CONTROL OPS ARE SUPPOSED TO DO+
0694	4057	888 0 06	4610	4610		CLX	20000			LUR MUM AUM COMIRUL OFS ARE SUPPOSED TO DO
0695	4610	888 0 32	0500	4018		SHR	0500			
0696	4018	888 0 20	8702	4222		BUF	30003			
0697	4222	88B 0 60	BJFG	4026		STA	MCZ			
0698	4026	888 0 35	4028	4630			11111	11111		
				* m # *		4015				

-		-							
0699	4630	888 0 7	000A	4235		ADD RA			
0700	4235	888 0 7		4440		ADD RA			
0701	4440	888 0 2				BUF MCN			
0702	4444	888 0 6				STA MC			
0703	4448	898 0 2		4253		LDA1 8003			
0704	4253	888 0 0		4406		CLX		FA.	EDIT OF CODE.
0705	4406	888 0 3				SHR 0700		200	PUT THE OPERATION CODE FIELD INTO THE FURM
0706	4216	888 0 3		4270		LDL RA			88ZZZ88NNN. THIS FORM IS USED BECAUSE IT
0707	4270	888 0 2				LDA1 8002			CANNOT CONFLICT WITH ANY SYMBOL IN THE
0708	4075	888 0 3				SHR 0700			SYMBOL TABLE.
0709	4435	888 0 3				SHL 0500			PUT THE IR FIELD INTO THE FORM ZOOOOONOO.
0710	4443	888 0 2		4247		BUF RL			LOI THE THE LIFTER THAT THE LOUIS ROGODOMOS
0711	4247	888 0 2		4401		BUF# 88000	88000		
0712	4401	888 0 6				STA OP	90000		
0713	4055	888 0 6				STX IR			
0714	4209	888 0 0		4213		11R1 0014	2F		
0715	4213	BBB 0 6			2	STA TAPEL	4 1	67.	INPUT BUFFER EMPTY
0716	4017	888 0 2			•	LDA1 BOOO			IF THE CURRENT INPUT BUFFER IS NOT YET
0717	4422	888 0 3						NO 1	
0718	4275	888 0 8		4275 4428		CLL TEQ 6F		YES	EMPTY. GO TO#E9.
0719	4428	888 0 0	-			FDX1 8001		153	•
0720	4633	888 0 3	9 B001 0 000C			LDL RX	TSUB*	ga.	SWAP BUFFERS
0721	8201	898 0 G			50200	TRD ITAPL	1300-	200	AN INPUT BUFFER HAS ALREADY BEEN LOADED
0722	4218	888 0 0		4221	20200	_			
0723	4221	888 0 2					1F		WE SWAP INPUT BUFFERS AND INITIATE READING IN
0724	4223	888 0 F		4453	TCONI	LDA TCONI TBU 50000	-5		TO THE EMPTY BUFFER.
0725	4454	898 0 6	_				-5		
0726	4453	888 0 6		4453 4257	45 ~5	HLT 8888 STA 50199	3F		
0727	8402	898 0 G			60200	TRD ITAP1	3P.		
0728	4019	888 0 0			00.00	LIR1 0000			
- 0729	4622	888 0 2		4475		LDA TCON2	1F		
0730	4624	888 0 F			TCONZ	TBU 60000	-6		
0731	4654	888 0 6		4653	86	HLT 8888	-6		
0732	4653	888 0 6		4257	#6 #6	STA 60199	3F		
0733	4257	888 0 3			3	CLL 3F	36		
0734	4475	888 0 6			í	STA TOONT			
0735	4629	888 0 0			•	11R1 0000			
0736	4083	888 0 6				STA TAPEI	6F		
0737	8919	888 0 5		4423	TSUB*	STL TEXT	G,	G	TAPE SUBROUTINE. RL IS EXIT. RX IS TAPE INST.
0738	4423	888 0 6			, 000	STX TEX	1F	•	THE SOUNDS THE NE TO ENTITE THE SHOTE
0739	4027	888 0 C			1	TBT	*	G	WAIT UNTIL PREV TAPE INSTRUCTION CLEARS.
0740	4432	888 0 2		4635	•		7	9	ANTI CHITE LUCA INTE THE THE TOTAL CERNING
0741	4635	888 0 8				CLA			
0742	4638	888 0 2		4638		TEQ 2F			
0743	4242	388 0 6				LDA LTAPE	e a		WALT TE INDICATOR : TOUT ON
0744	4438	888 0 2			2	HLT 2222	RA	G	HALT IF INDICATOR LIGHT ON
0745	4442	888 0 3			4 ,	LDA TCONT		G	IF PRECEDING WAS A READ+ UNLOAD BUFFER
0746	4445	888 0 8				CLL TEO TE	RA	9	TE EVECENTING AND W VENDA AUFOND DOLLEY
0747	4060	65B 0 5			3	TEQ 3F	, TAM	G	PUT NEXT TAPE INSTRUCTION INTO LTAPE
0748	4402	888 0 2			-			U	LAT MENT THEM THAT MACHINE THAT PARE
J: 70	4408	300 U Z	o altu	7000		LDA TEX			
	-								

0749	4606	886	0	35	4408	4260		ERS#	ннннн	H 0 0 0 0
0750	4260	888			4612	4214			1317F11 113	
0751	4612	888	_					BUF		SF
0752	4214		_		0000	4027	_	JMP	0000	18
0753		888			89F6	BOFH	8	STA	LTAPE	TEXI
	4228	888			85FG	4632	6	LDL	OP	
0754	4632	888	-		4634	4636		LDAN	88220	88658
0755	4636	888		-	4239	4439		TEQ	ONN	SWICH
0756	4056	888	1	08	0006	4409	ONSW	LIR3		
0757	4409	888	0	05	4061	4413		LDX	1F	
0758	4413	888	0	25	4615	8712		LDA	•••	SRCH*
0759	4615	888			4219	8736		LDL		ERR1#
0760	4219	888			4623	4675		LDAN	67220	00000
0761	4675	888	-		2000	4061				
0762	4061	888		-	4613	4065	1	STAL		1F
0763	4065	888					•	LDL#	CCCCC	CCCCC
0764	4418	888	-		4418	ADOO		TGR		RA
0765	4072			_	85FG	4072		STA	OF	
0766	7012	898	U	30	4074	4226		LDL	PROCH	PROCA
0767	11334	/180						HHH	H	
	4226	888	_		0000	4079	PROCA	LIRJ	0000	
0768	4079	888		50	82FH	4283		STL	AEX	
0769	4283	888		25	B706	4237		LDA	A	
0770	4237	888	0	-30	4639	4241		LOL#	00000	88888
0771	4241	888	Q	82	4644	4094		TEQ	15	
0772	4094	868	0	31	4447	4447		CLL	• *	
0773	4447	888	0		84FC	4601		LDA	BLANK	
0774	4601	886		82	4644	4204		TEO	1F	
0775	4204	888	o	30	4644	8736		LDL		e do La
0776	4644	888	0	05	4648	4600	1		15	ERRI*
0777	4600	888	ō	30	4602	8810	•	LDX	2F	er Thin is
0778	4602	888	1		4010	4010		LDL		FIND*
- 0779	4010	888	i	-			1.0000	JMP2		
- 0780	4011		-		0002	4012	L0000	LIR2	0002	F0005
0751	4012	888	1	02	0002	4012	L0001	LIR2	0002	L0002
0782		888	0	30	4014	3736	L0002	LDL	L0004	ERR1*
	4013	888	0	25	BIFG	4217	L0003	LDA	LINE	1F
0,05	4014	888		25	BIFG	4217	L0004	LDA	LINE	1F
- 0784	4015	888		25	BIFG	4217	L0005	LDA	LINE	1F
0785	4217	888	Ú	30	4419	8723	1	LDL		FARB#
0786	4419	888			4648	3861		LDL	2F	DEFN*
0787	4648	888			BSFC	4404	2	STA	ALOC	32. / 1.
0788	4404	888	0	30	BOFC	4608		LDL	MLOC	
0789	4608	888	0	82	4261	4461		TEQ	3F	
0790	4461	888	0	30	87FC	4265		LDL	CLOC	
0791	4265	888	0	82	4618	4068		TEO	4F	2F
0792	4618	888		25	BSFH	4272	4	LDA	CLEV	
0793	4261			30	B7FC	4465	3			1F
0794	4465	888			4417	4619		LDL	CLOC	á fr
0795	4417		ĭ	00	0000	0000		LDA	2000	8F
0796	4619	338	_	70	0000		•		00000	00000
0797	4274	898				4274	8	ADD	RL	
0798	4227				4227	4618		TEQ		4B
4,70	TRE!	886	Ų	23	Bufh	4272		LDA	MLEV	1F

E9. OP SRCH*.

ON: IF OP IS 'ON' GO TO#C6.

OFF:IF MASTER SWITCH IS OFF GO TO#C7.

ELSE SEARCH FOR OP-CODE IN THE SYMBOL TABLE.

CONT IF IT IS A CONTROL OP. GO TO#C1.

SYM:IF IT IS A MACHINE SYMBOLIC OP. GO TO THE MAIN PROCESSING ROUTINE#P1.

BADIIF IT IS NOT IN THE TABLE, GIVE AN ERROR

INDICATION AND CHANGE OF TO 67. GO TO #P1.

- L. PROCESS A ADDRESS.
 THIS ROUTINE IS USED FOR INSTRUCTIONS AND ALSO FOR CONTROL OPS CON-NUM. AND ZON.
- LI. CHECK BLANK A

 IF A IS NOT BLANK BUT THE PRECEDING INSTRUCTION HAD A BLANK ADDRESS. GIVE AN ERROR INDICATION.
- L2. FIND* A.
 DEF*FIND A (ROUTINE Q). IF IT IS ALREADY DEFINED.
 GO TOML4.
 UND:
- L3. FAR8*.DEFN*.

 A IS AN UNDEFINED ADDRESS. IF IT IS REGIONAL.

 LOCAL FORWARD. OR BLANK THIS IS AN ERROR

 CONDITION AND A NEW LOCATION IS ASSEMBLED.

 OTHERWISE USE THE LINE NUMBER AS RANDOM DRUM

 LEVEL AND GO THRU FARB* (ROUTINE F) AND

 DEFN* (ROUTINE D).
- L4. ADJUST A LEVEL.

 IF THE NEW A ADDRESS MATCHES THE LAST M OR C ADDRESS. USE THEIR LEVEL. EXCEPT ON M ADDRESS MATCH WHERE THE C ADDRESS HAD UNDIGITS. IN THE LATTER CASE THE PREVIOUS C LEVEL IS USED. OTHERWISE USE THE A ADDRESS AS THE DRUM LEVEL

-		- .								
0799	4272	888 0 6	0 83F	4426	1	STA	ALEV		•	
0800	4426	888 0 3		4279		CLL	-		L5.	ZERO TO BLANK.
0801	4279	88B 0 5	0 84F	82FH		STL	BLANK	AEX		THE LOCATION 'BLANK' IS SET TO ZERO SINCE AT
0802									X	THIS POINT BLANK ADDRESSES ARE UNDEFINED.
0803									X	#EXIT.
0804	4068	888 0 2			2	LDA		8F		
0805	4470	888 1 0				CONI	00000	00000		
0806	4472	888 0 7		4272	8	ADD	ALOC	18		
0807	4074	888 0 2			PROCM	LDA	IR		P.	PROCESSING OF INSTRUCTIONS
0808	4628	888 0 3				LDL#	00000	00800	Pl.	PROCESS A
0809	4082	898 0 8				TEQ	1F			EXECUTE THE L ROUTINE.
0810	4285	888 O 3				LDL#	10000	00H00	P2.	CALCULATE M OPTIM
0811	4089	8-0 886				TEO	1F			IF THE IR FIELD IS NON BLANK AND NOT A
0812	4642	888 0 2				LDA	ALEV			LITERAL. ADD 1 TO A LEVEL FOR INDEX REGISTER
0813	4046	858 0 7				ADD#	00000	00001		MODIFICATION TIME. THEN ADD THE APPROPRIATE
0814	4051	898 0 6				STA	ALEV	1F		AMOUNT TO GET THE OPTIMUM M ADDRESS LEVEL.
0815	4085	898 0 2			1	LDA	OP			AS DETERMINED BY THE OPERATION CODE.
0816	4289	888 0 3				SHR	0200			PUT THIS IN FORTIME.
0617	4294	888 0 3				ERS#	00000	COOHH		
0818	4298	888 0 7				ADD	ALEV			
0819	4103	888 0 6				STA	OPTIM			
0820	4457	888 1 0				LIRS	0002			
0821	4460	888 0 2				LDA	IR			and the same and
0822	4414	898 0 3				LDL#	10000	00H00		LITERAL
0823	4268	356 0 8				TEQ	5F		YES	IF THE IR FIELD CONTAINS A NUMBER SIGN GO TO
0824	4621	888 0 3				SHL	0200			#P5.
0825	4626	888 0 3				CLL			NO I	
0826	4479	888 0 0				CLX				
0827	4282	BBB 0 7		,	_	ADD	3F	RA	P4 •	FIGURE INDEXING
0828	4084	888 0 2			3	LDA	00000	4F		ADJUST BIT 4 OF THE OPERATION CODE AND
0829	4000	888 0 0			00000	CON	00000	00000		THE SIGN OF THE RESULT TO GIVE THE INDEX
0630	4001	858 0 4			90001	CON	40000	00000		REGISTER MODIFICATION DESIRED. GO TOMPS.
0831	4002	888 0 0			00002	CON	00000	00001		
0832	4003	888 0 4			00003	CON	40000	00001		
0833 0834	4004	898 0 0			00004	CON	00000	00002		
0835	4005	888 0 0			00005	CON	00000	00003		
0836	4007	888 0 0	_		90006	CON	00000	00005		
0837	4008	888 0 0			90007	CON	00000	00006		
0838	4009	888 0 0			80000	CON	00000	00007		
0839	4052	33B 0 6			90009	CON	00000 SIGN	00003		
0840	4256	888 0 3			•	SHR	0100			
0841	4660	888 0 2					OP			
0842	4614	388 0 6				BUF	OP	PRCMI		
0843	4421	888 0 2			5		OPTIM	LUCH !	20	CREATE CONSTANT
0844	4125	888 0 3			3	LDA	OFITH	FARB#	F3.	GO THRU FARB# AND AUST# (ROUTINES F AND A)
0845	4427	888 0 6				STA	MLOC	FANDT		TO DETERMINE AN ADDRESS AND DRUM LEVEL FOR
0846	4483	858 0 3				LDL	UL VV	AJST*		THE LITERAL CONSTANT. ASSEMBLE THE POSITIVE
0847	4485	888 0 6				STA	MLEV	A I EVA		CONSTANT INTO THIS LOCATION (ROUTINE O)
0848	4441	85B 0 2				LDA	MLOC			TRANSFERRING THE MR DIGIT INTO AN AR DIGIT
	- 1 - A	200 (2	ugrt	5 7073		LUA	MEGG			INDIA UM NA VINI IERAN NE SEI BEITANA NA NIGEL

0849											
0850	0849	4645	888 0 32	0800	4456		SHR	0800		FOR THE CONSTANT.	
0851 4100 888 0 35 4062 9064 588 0 0000 00000 00000 00000 00000 00000 0000	0850	4456	388 Q 25								0 GO T
0852 4069 888 0 25 84F6 4073	0851								00000	William It is the Delivery with	,
0853	0852				17						
0854 4073 888 0 32 4325 890 0	0853		-					-			
0855 4431 388 0 25 4679 4431								110	ATOTA		
0856 4491 388 0 00 8710 4085 STA CORP PROCC 0857 4478 8810 0 05 4070 4672 PROCH LDX 2F FIND* MODOL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		-						00000			
0857 4468 888 0 30 4474 8810							_		-		
0859 4672 898 0 30 4474 8810 0859 4474 898 0 31 4129 4129 0860 4129 898 0 20 4020 4020 0861 4022 898 0 25 85FG 4076 0862 4076 898 0 35 4078 4280 0863 4280 898 0 35 4078 4280 0864 4023 898 0 25 85FG 4070 0865 4020 898 0 30 4122 8736 0865 4020 898 0 30 4122 8736 0866 4023 898 0 30 4122 8736 M0000 LDL if ERRI* CONDITION AND ZERD IS ASSET CONDITION. AND ZERD IS ASSET CONDITION AND ZERD						PRCMI			FROCE	SA. ETABLA M.	
0859 4474 888 0 31 4129 4128 0860 4129 888 1 00 4020 4020 0861 4022 888 0 25 85FG 4076 M0002 LDA 0P 0862 4076 888 0 25 85FG 4076 M0002 LDA 0P 0863 4280 888 0 25 85FC 4670 LDA ALOC 2F CONDITION AND ZERO IS ASSET 0868 4683 888 0 30 4122 8736 M0000 LDL IF ERRI* CONDITION AND ZERO IS ASSET 0868 4023 888 0 30 4122 8736 M0003 LDL IF ERRI* BLANK AND IF THE 0P-CODE IS OBSET 0868 4023 888 0 25 85FH 4329 M0003 LDA 0PTIM IF USED TO DEFINE M ON THE 8AS 0869 4024 888 0 25 85FH 4329 M0004 LDA 0PTIM IF USED TO DEFINE M ON THE 8AS 0871 4229 888 0 30 4670 8861 LDL 2F DEFN* 0871 4021 888 0 30 4670 8861 LDL 2F DEFN* 0872 4631 888 0 30 4278 8861 LDL 2F DEFN* 0873 4276 888 0 30 4278 8871 LDL 50 DEFN* 0874 4276 888 0 30 4278 8871 LDL 50 DEFN* 0875 4489 888 0 35 4461 4463 SAS 0H00 0000 CON 99700 00000 CON 9970						, Keuf		25	ETNOR		
0860 4129 888 1 00 4020 4076 MOOGO LDA OP PT. FAR8* DEFN*. 0862 4076 888 0 35 4078 4280 ERS# O0020 00000 REGIONAL OR LOCAL PLAIN TH. 0864 4083 888 0 25 89FC 4070 LDA ALOC 2F CONTITION AND ZERD IS ASSET CONTITION AND ZERD IS									FARUT		Ta Wru
0861 4022 888 0 25 89F0 4076 8080								M0000			
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0875						2		WLOC			
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0881 4303 888 0 30 4255 4657									00000		
0882 4657 888 0 82 4310 4510 TEQ 1F THE OP CODE FOUND IN THE SY 0883 4310 888 0 25 4262 4510 LDA 1F SPECIAL FORMAT OPTSOOMMCC. 0884 4262 888 0 00 0000 1000 CON 00000 01000 HERE OP IS THE TWO DIGIT OF SIS 1 FOR IGNORE C: 2 FOR 0886 4263 888 0 32 0200 4668 SHR 0200 HAMEN AND CC ARE INCREMENTS FOR 0886 4273 888 0 60 85FG 4273 ADD 0P LATENCY. T IS THE TYPE OF REGUIRED: AS FOLLOWS: 0890 4498 888 0 30 4251 4503 CC1 LDLW 99800 00000 1: C IS MMCC FIXED LEVEL. 0891 4503 888 0 82 4656 4106 TEQ 3F 2: C IS A+CC 3: SHIFT COMMANDS C IS A+N4 0895 4106 888 0 70 4058 4476 3 ADD CON 00000 THE RULE GIVEN BY T.		-				#C1					
0883 4310 888 0 25 4262 4510 LDA IF SPECIAL FORMAT OPTSOOMMCC. 0884 4262 888 0 00 0000 1000 CON 00000 01000 HERE OP IS THE TWO DIGIT OF 0885 4510 888 0 32 0200 4668 SHR 0200 MM AND CC ARE INCREMENTS FOR 0886 4063 888 0 30 0200 4668 SHR 0200 MM AND CC ARE INCREMENTS FOR 0888 4273 888 0 60 85FG 4477 STA OP &C2 REQUIRED: AS FOLLOWS: 0889 0 4498 888 0 30 4251 4503 CT LDL# 99800 00000 1: C IS MMCC FIXED LEVEL. 0891 4503 888 0 25 85FG 4710 LDA OP 3: SHIFT COMMANDS C IS A+N4 0893 4710 888 0 35 4462 4264 ERS 0894 4462 888 0 00 0000 HMMH CON 00000 OHMHH 0895 4106 898 0 70 4058 4476 3 ADD CON 00000 THE RULE GIVEN BY T.								00000			
0884											
0885 4510 898 0 06 4063 4063 1 CLX S IS 1 FOR IGNORE C: 2 FOR 0886 4063 898 0 32 0200 4668 SHR 0200 MM AND CC ARE INCREMENTS FOR 0887 4668 898 0 70 85FG 4273 ADD OP LATENCY. T IS THE TYPE OF 0898 4273 898 0 60 89FG 4477 STA OP &C2 REGUIRED: AS FOLLOWS: 0890 4498 898 0 30 4251 4503 -C1 LDL# 99800 00000 11 C IS MMCC FIXED LEVEL. 0891 4503 898 0 82 4656 4106 TEQ 3F 21 C IS A+CC 0892 4656 898 0 25 85FG 4710 LDA OP 31 SHIFT COMMANDS C IS A+N4 0893 4710 888 0 35 4462 4264 ERS 2F 0894 4462 898 0 00 0000 HMMH CON 00000 OMHMH CON 00000 OMHMH CON 00000 OMHMH CON 00000 THE RULE GIVEN BY T.											
0866 4063 888 0 32 0200 4668 SHR 0200 MM AND CC ARE INCREMENTS FO								00000	01000		
0887 4668 888 0 70 85FG 4273 0888 4273 888 0 60 85FG 4477 0889 0899 0890 4498 888 0 30 4251 4503 -C1 LDL# 99800 00000 0891 4503 888 0 25 85FG 4710 0892 4656 888 0 25 85FG 4710 0893 4710 888 0 35 4462 4264 0894 4462 888 0 00 0000 HHHH 0895 4106 898 0 70 4058 4476 3 0896 4058 888 0 00 1000 0000 0896 4058 888 0 00 1000 0000 0897 4058 888 0 00 1000 0000 0897 4058 888 0 00 1000 0000 0898 00000 0000 0000 0000 0000	_					1					
O888 4273 888 0 60 85FG 4477 STA OP &C2 REQUIRED: AS FOLLOWS: O890 4498 888 0 30 4251 4503 -C1 LDL# 99800 00000 1: C IS MMCC FIXED LEVEL. O891 4503 888 0 82 4656 4106 TEQ 3F 2: C IS A+CC O892 4656 888 0 25 85FG 4710 LDA OP 3: SHIFT COMMANDS C IS A+N4 O893 4710 888 0 35 4462 4264 ERS 2F O894 4462 888 0 00 0000 HHHH CON 00000 OHHHH O895 4106 898 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR O896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.											
0890										LATENCY. T IS THE TYPE OF	LATE
0890 4498 888 0 30 4251 4503 -C1 LDL# 99800 00000 1: C IS MMCC FIXED LEVEL. 0891 4503 888 0 82 4656 4106 TEQ 3F 2: C IS A+CC 0892 4656 888 0 25 85FG 4710 LDA OP 3: SHIFT COMMANDS C IS A+N4 0893 4710 888 0 35 4462 4264 ERS 2F 0894 4462 888 0 00 0000 HHHH CON 00000 OHHHH 0895 4106 888 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR 0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.		4413	888 0 00	0 JF G	4477		STA	OP	#C2		
0891 4503 888 0 82 4656 4106 TEQ 3F 2: C IS A+CC 0892 4656 888 0 25 85FG 4710 LDA OP 3: SHIFT COMMANDS C IS A+N4 0893 4710 888 0 35 4462 4264 ERS 2F 0894 4462 888 0 00 0000 HHHH CON 00000 OHHHH 0895 4106 898 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR 0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.		HAMA	600 A 20								
0892 4656 888 0 25 85FG 4710 LDA OP 3: SHIFT COMMANDS C IS A+N4 0893 4710 888 0 35 4462 4264 ERS 2F 0894 4462 888 0 00 0000 HMHH CON 00000 OHHHH CON 00000 OHHHH O895 4106 898 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR 0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.						-C1		99800			
0893 4710 888 0 35 4462 4264 ERS 2F 0894 4462 888 0 00 0000 HHHH CON 00000 OHHHH 0895 4106 888 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR 0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.									3F	21 C IS A+CC	
0894 4462 888 0 00 0000 HHHH CON 00000 OHHHH 0895 4106 888 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR 0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.								OP		3: SHIFT COMMANDS C IS A+A	I+CC.
0895 4106 898 0 70 4058 4476 3 ADD -C2 WE NOW CALCULATE OPTIM FOR 0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.											
0896 4058 888 0 00 1000 0000 CON 00100 00000 THE RULE GIVEN BY T.								00000			
COM COM COM COM ME WITH MINE WILL WILL WITH MINE WILL WITH MINE WILL WITH MINE WILL WITH MINE WI						3					I C+ A
							CON		00000	THE RULE GIVEN BY T.	
0897 4477 888 0 30 83FH 4081 &C2 LDL ALEV 3F					-						
0898 4476 BBB 0 30 B4FH 4081 -C2 LDL MLEV 3F	UDYE	4476	998 0 30	BUFH	4081	-c2	LDL	MLEV	3F		

TANT. TELD BLANK AND GO TOMP9.

NE Q). IF IT IS ALREADY DEFINED.

FINED ADDRESS. IF IT IS LOCAL PLAIN THIS IS AN ERROR D ZERD IS ASSEMBLED. IF IT IS THE DP-CODE IS ONE THAT IGNORES MBLED. RB+ AND DEFN+ (ROUTINES F.D) ARE NE H ON THE BASIS OF OPTIM AND

EL AT THIS POINT IS NOW Y SUBROUTINE A.

MITAC WORK ON THE C ADDRESS NOW. FOUND IN THE SYMBOL TABLE IS IN A AT OPTSOOMMCC. HE TWO DIGIT OPERATION CODE. GNORE C. 2 FOR IGNORE M. E INCREMENTS FOR DETERMINING IS THE TYPE OF LATENCY RULE FOLLOWS! FIXED LEVEL. FIXED LEVEL.

LATE OPTIM FOR C. ACCORDING TO EN BY T.

-	-					
0899	4081 888 0 25	85FG 4135	3	LDA OP		
0900	4135 888 0 35	4637 4689	•	ERS# 00000	000HH	
0901	4689 888 0 70	000B 4264		ADD RL	2F	
0902	4264 BBB 0 60	89FH 4118	2	STA OPTIM	e.r	
0903	4118 888 1 08	0004 4071	-	LIR3 0004		P10.FIND* C.
0904	4071 888 0 05	4473 4525		LDX 2F		DEF: FIND C(ROUTINE Q). IF IT IS ALREADY DEFINED.
0905	4525 888 0 30	4627 3810		LDL	FIND*	GO TOPP12.
- 0906	4627 88B 1 00	4030 4030		JMP2 C0000	FAHUT	UND1
0907	4033 888 0 30	4335 8736	C0003	LDL 1F	ERR1#	P11.FARG*.DEFN*.
0908	4030 89B 0 30	4335 8736	0000	LDL 1F	ERRI*	C IS AN UNDEFINED ADDRESS. IF IT IS
0909	4335 888 0 26	4473 4473	1	CLA 2F	E1412.4	REGIONAL OR LOCAL PLAIN. THIS IS AN ERROR
0910	4032 BBB 0 25	85FG 4086	C0002	LDA OP		CONDITION AND ZERO IS ASSEMBLED.
0911	4086 888 0 35	4088 4640	0000	ERS# 00010	00000	IF IT IS BLANK AND THE OP-CODE IGNORES C.
0912	4640 BBB 0 31	4093 4093		CLL		IT IS HADE EQUAL TO M. OTHERWISE FARB# AND
0913	4093 888 0 82	4446 4646		TEQ 1F		DEFN+ (ROUTINES F.D) ARE ACTIVATED TO DEFINE
0914	4646 888 0 25	B6FC 4473		LDA MLOC	2F	C ON THE BASIS OF OPTIM.
0915	4446 BBB 0 07	0010 4449	1	IIR 0010		BLANK ADDRESS HERE MAY BE PUT IN BODA
0916	4449 BBB 0 70	BBAH 4604		ADD FUNNY		OR BOOF REGION OF CORE.
0917	4604 888 0 30	4306 4258		LDL# 00199	00000	alt man ilmanda. A. Ballina
0918	4258 888 0 87	4031 4661		TGR C0001		
0919	4661 888 0 60	BBAH 4665		STA FUNNY		
0920	4665 BBB 0 05	000A 4269		LDX RA		
0921	4269 888 0 70	4271 4724		ADD	-FNNY	
0922	4271 888 0 99	9000 0000		CON 99900	00000	
0923	4725 888 0 20	4077 4529	&FNNY	BUF	iF	
0924	4077 888 0 00	800F 0000		CON 00800	F0000	
0925	4724 888 0 07	BOOA 4277	-FNNY	IIR BOOA		
- 0926	4277 888 0 20	000C 4529		BUF RX	1F	
0927	4529 888 0 32	0400 4286	1	SHR 0400	3F	
0928	4035 888 0 25	89FH 4139	C0005	LDA OPTIM	1F	
0929	4034 BBB 0 25	89FH 4139	C0004	LDA OPTIM	1F	
0930	4031 888 0 25	89FH 4139	C0001	LDA OPTIM	1F	•
0931	4139 BBB 0 30	4286 8723	1	LDL 3F	FARB*	
0932	4286 888 0 30	4473 3861	3	LDL 2F	DEFN*	
0933	4473 BBB 0 60	87FC 4729	2	STA CLOC		P12.ADJUST C LEVEL
0934	4729 888 0 30	4281 3871		LDL	AJST*	THE DRUM LEVEL AT THIS POINT IS NOW
0935	4281 888 0 60	B5FH 4087		STA CLEV	BUILO	DETERMINED BY SUBROUTINE A.
0936	4087 888 0 25	B7FC 4091	BUILD	LDA CLOC		P13. SYNTHESIZE
0937	4091 888 0 32	0400 4698		SHR 0400		THE OP! M AND C ARE NOW PUT TOGETHER
0938	4698 BBB 0 25	86FC 4252		LDA MLOC		INTO A TEN-DIGIT INSTRUCTION.
0939	4252 888 0 32	0600 4111		SHR 0600		
0940	4111 BBB 0 25	85FG 4115		LDA OP		
0941	4115 888 0 35	4617 4469		ERS# HH000	00000	
0942	4469 888 0 20	000C 4673		BUF RX		
0943	4673 BBB 0 77	4673 4676		ATL	BILDI	
0944	4676 888 0 25	85FC 4480	BILDI	LDA ALOC		P14.ASSEMBLE
0945	4480 BBB 0 06	4133 4133		CLX		
0946	4133 888 0 32	0500 4291		SHR 0500		USE ROUTINE D TO OUTPUT THE ASSEMBLED
0947	4291 BBB 0 25	89FC 4295		LDA SIGN		LINE OF CODE.
0948	4295 888 0 32	0200 4050		SHR 0200		

0949	4050	888 0 25	BOFG	4054		LDA	R	
0950	4054	888 0 32	0300	4160		SHR	0300	
0951	4160	858 0 25	0008	4464		LDA	RL	
0952	4464	888 0 30	4616	8900		LDL		OTPT*
0953	4616	898 0 25	84FB	4322		LDA	TEMP !	1F
0954	4322	388 0 05	4674	8920	1	LDX		UNDG*
0955	4674	88B 0 65	84F8	4680		STX	TEMPI	4 , 4
0956	4680	898 0 06	4333	4333		CLX		
0957	4333	888 0 32	0400	4090		SHR	0400	
0958	4090	888 0 37	0200	4495		SHL	0200	
0959	4495	88B 0 32	0600	4254		SHR	0600	
0960	4254	988 0 65	0255	4107		STX	0255	
0961	4107	888 0 37	0200	4662		SHL	0200	
0962	4662	858 0 60	83FB	4066		STA	TEMP	
0963	4066	888 0 25	85F8	4120		LDA	TEMP2	
0964	4120	888 0 05	4522	8920		LDX	1 5" 1-11. E	UNDG*
0965	4522	888 0 65	BSFB	4478		STX	TEMP2	01004
0966	4478	888 0 77	4478	4481		ATL	1 EMP	
0967	4481	888 0 35	4533	4535			LILLIUL I	HOODO
0968	4535	888 0 20	83FB	4339		ERS#	HHHHH	H0000
0969	4339					BUF	TEMP	
0970	4722		0370	4722		STA	0370	
0971		888 0 25	0008	4126		LDA	RL	** * * * * * *
	4126	888 0 35	4678	4130		ERS#	00000	ОНННН
0972	4130	888 0 37	0200	4735		SHL	0200	
0973	4735	858 0 60	0286	4288		STA	0286	
0974	4288	88B 0 25	85FB	4092		LDA	TEMP2	
0975	4092	888 0 35	4494	4096		ERSA	00000	OHHHH
0976	4096	888 0 37	0200	4451		SHL	0200	
0977	4451	888 0 20	4703	4455		BUF#	88880	000B3
0978	4455	888 0 60	0281	4733		STA	0281	
0979	4733	888 0 25	85F8	4287		LDA	TEMP2	
0980	4287	898 0 35	4539	4491		ERS#	HHHHH	H0000
0981	4491	888 0 77	4491	4694		ATL		
0982	4694	35B 0 25	84F8	4148		LDA	TEMP!	
0983	4148	888 0 06	4651	4651		CLX		
0984	4651	858 0 32	0400	4458		SHR	0400	
0985	4458	888 0 37	0200	4263		SHL	0200	
0986	4263	388 0 32	0600	4172		SHR	0600	
0987	4172	888 0 37	0200	4677		SHL	0200	
0988	4677	888 0 20	0008	4681		BUF	RL	
0989	4681	888 0 20	4183	4185		BUF#	00080	80083
0990	4185	888 0 60	0365	4067		STA	0365	
0991	4067	888 0 25	000C	4471		LDA	RX	
0992	4471	888 0 20	4123	4175		BUFN	00008	80000
0993	4175	888 0 60	0250	4452		STA	0250	ALLX
0994	0205	898 0 00	0000	0000	0205	CON	00000	00000
0995	BAGE	888 0 06	4669	4669	PSUDX	CLX		
0996	4669	888 0 63	4669	4372		ZAP		
0997	4372	888 0 60	0250	4652		STA	0250	
0998	4652	888 0 65	0255	4307		STX	0255	

P15.EDIT

THE ASSEMBLED INSTRUCTION IS EDITED AND SENT TO THE PRINTER AREA.
FOR CONTROL OPERATIONS, HOWEVER, THIS PART IS SET TO BLANKS.

1047

1048

0999	4307	888 0 60	0281	4383		STA	0281	
1000	4383	888 0 65		4488		STX	0286	
1001	4488	888 0 60		4267		STA		
1002	4267	858 0 65					0365	At i V
				4452	A. A W	STX	0370	ALLX
1003	4452	858 0 31		4655	ALLX	CLL	_	
1004	4655	888 0 25		4609		LDA	FTAG	
1005	4609	888 0 82	4112	4312		TEQ	FIN	FLOW
1006	4112	888 0 25	8678	4266	FIN	LDA	R0009	
1007	4266	888 0 05		4320		LDX	R0008	
1008	4320	888 0 60		4664		STA	0262	
1009	4664	888 0 65		4119		STX	0267	
1010	4119	888 0 25		4323			R0005	
						LDA	-	
1011	4323	888 0 05		4127		LDX	R0004	
1012	4127	888 0 60		4296		STA	0294	
1013	4296	888 0 65		4101		STX	0299	
1014	4101	888 0 25	8670	4105		LDA	R0001	
1015	4105	88B 0 05	8669	4059		LDX	R0000	
1016	4059	888 0 60	0325	4327		STA	0325	
1017	4327	888 0 65		4482		STX	0330	
1018	4482	858 0 25		4486		LDA	R0007	
1019	4486	888 0 05		4290		LDX	R0006	
1020	4290	888 0 60		4330		STA	0378	
1021	4330	888 0 65		4385		STX	0383	
1022	4385	888 0 25		4739		LDA	R0003	
1023	4739	888 0 05	8671	4293		LDX	R0002	
1024	4293	888 0 60	0209	4311		STA	0209	
1025	4311	88B 0 65	0214	4466		STX	0214	
1026	4466	888 0 25		4520		LDA	ERROR	
1027	4520	888 0 06		4523		CLX	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1028	4523	888 0 62		4527		ZUP		
1029	4527	888 0 37					01100	
				4284		SHL	0400	
1030	4284	888 0 20		4688		BUF	LINE	
1031	4688	888 0 20		4292		BUF#	00000	80000
1032	4292	888 0 60		4102		STA	0200	
1033	4102	888 0 25		4506		LDA	LC	
1034	4506	888 0 70	4658	4511		ADD		-PR
1035	4658	88B 0 99	9999	9951		CON	99999	99951
1036	4511	888 0 75	4114	4467	-PR	SUB#	99999	99950
1037	4467	888 0 60		4671	•	STA	LC	
1038	4671	888 0 11		4189		PRN	0201	-PRI
1039	4512	888 0 60	-		100			-1 114
				4666	&PR	STA	LC	"Bo t
1040	4666	888 0 11		4189		PRN	0217	-PRI
1041	4190	898 0 67		AOOO	&PR1	HLT	3333	RA
1042	4189	898 0 25		4493	-PRI	LDA	TAPEL	
1043	4493	888 0 70		AOOO		ADD		RA
1044	4695	888 0 08	0000	4200		LIRI	0000	START
1045								
A								

P16.FLOW CHART

IF THE CONTROL OPERATION FLO
YES: HAS APPEARED EARLIER. GO TO THE FLOW-

CHARTING ROUTINE#X1.

NO:

PIT. PRINT

MOVE THE REMARKS TO THE PRINTER AREA FROM REGION R. TAKE ALL ERROR CONDITIONS THAT HAVE BEEN DETECTED AND PUT THEM ON THE LIST-ING. THERE IS ROOM FOR AT MOST 5 ERRORS. INTERROGATE THE PAGE-LINE COUNTER TO SEE IF A SKIP TO NEXT PAGE IS NECESSARY. FINALLY PRINT THE LINE. AND GET READY FOR THE NEXT LINE. GOING TO#E1.

C. CONTROL OPS.

CI. BRANCH TO OP

G RA CONTAINS A TRANSFER TO CONTROL OF.

G FROM STEP E9.

1050	-									
1051										
1052	1									
1053										
1054										
1055										
1056										
1057										
1058										
1059										
1060										
1061										
1062										
1063										
1064										
1065			_	-						
1066	BSAG	888			8709	4720	HHH	LDA	MH	
1067	4720	888	0		BEFH	BJAG		STA	HTAG	PSUDX
1068	BOAG	898	0	25	4318	4170	FLO	LDA#	HHHHH	HHHHH
1069	4170	888	0	67	1212	4712		HLT	1212	
1070	4712	888	Q	60	67FH	BACE		STA	FTAG	PSUDX
1071										
1072	BIAH	858		25	82FG	4572	NUM	LDA	MCN	1F
1073	HASE	888	0		83FG	4572	ZON	LDA	MCZ	1F
1074	BAAH	888	0	25	8708	4572	ALF	LDA	M	1F
1075	4572	886	0	60	84FG	HADE	1	STA	MC	CON
1076	HADE	988	O	30	4128	4530	CON	LDL		PSIGN
1077	4128	888	Q	30	4730	4226		LDL		PROCA
1078	4730	338	Q	30	84FG	4676		LDL	MC	BILDI
1079	4530	338	0	50	BOFS	4484	PSIGN	STL	EXIT	
1080	4484	888	0	25	B6FG	4138		LDA	IR	
1081	4138	888	0	30	4690	4492		LDL#		00400
1082	4492	888	0	82	4145	4345		TEO	17	
1083	4345	358	Q	32	0200	4145		SHR	0200	1F
1084	4145	888	0	60	BOFC	aors	1	STA	SIGN	EXIT
1085	BAOB	888	2	02	0000	4319	BLA	LIR4	0000	1F
1086	BIAG	888	2	02	0003	4319	BLR	LIR4	0003	1F
1087	4319	888	-		8711	4723	1	LDA	CH	•
1088	4723	888			4375	4727	•		00000	00988
1089	4727	888		82	4180	4380		TEO	1F	40000
1090	4380	888	-		4682	4684		ERS#		HHOOD
1091	4684	888			0400	4691		SHL	0400	2F
1092	4180	858			0001	4691	1			
1093	4691	888					1	IIR	0001	2F
1094	4144	888	_		4691	4144	2	ATL	MILL DI	
1095	4348				4496	4348		BUF	BVARI	
		888	0	60	4450	4302		STA	BVAR	
1096 1097	4302	898		25	6000	4706		LDA	RL	
167/	4706	888			4259	4259		CLX		
1098	4259	888	100		0400	4116		SHR	0400	

HIF OP IS BLANK. GO TOMPIS. CONIFOR CONINUMIZONIALFI GO TORCZI SLRIFOR BLA.BLR GO TONC3. CORIFOR COR GO TOMCA. EQUIFOR EQU GO TONCS. HHHIFOR HHM. SET MH INTO HTAG AND GO TOMP15. OFF: FOR OFF GO TO#C6 FLOIFOR FLO. SET FLOWCHARTING TAG ON AND GO TO #PIS ALSO. PATIFOR PATIPRINT THE AVAILABILITY TABLE AND GO TONEL. TYPIFOR TYP: HALT AND INSERT RA IN TYPE OF PROG. X GO TOMP15. ERRITE AN ERROR OCCURS WHILE PROCESSING ONE OF THE ABOVE. NO ADDITIONAL ACTION TAKES PLACE AND WE GO TOMPIS. END: FOR END: GO TO THE ENDING ROUTINE#Z1.

G OPERATOR SHOULD CLEAR A IF FLOWCHARTING
IS NOT DESIRED.
C2. PROCESS A
USE ROUTINE L TO GET THE A ADDRESS.
THEN USE THE IR FIELD TO INDICATE THE
SIGN AND GO TOWPIN TO ASSEMBLE THE INSTRUCT

TION.

C3. UPDATE AVAIL TABLE
CHECK CH-FIELD FOR INCREMENT. IF BLANK.
USE 1. ELSE USE CH MOD 100. FIND* M.
IF UNDEFINED. ERROR. IF C IS BLANK. SET
C EQUAL TO M. ELSE FIND* C. IF UNDEFINED.
ERROR. FIND THE STARTING PLACE IN THE
AVAILABILITY TABLE. AND KEEP RESERVING OR
UNRESERVING ONE LOCATION AT A TIME
UNTIL DONE. GO TORCS.

			_							
1099	4116	888	0 7:	4518	4121		SUB#	00000		00001
1100	4121	888	0 60	84F8	4575		STA	TEMP 1		1F
1101	4575	888	0 0		4179	1	LDX	2F		FP2ER
1102	4179	888	1 08		4132	FP2ER	LIR3	0002		FPERR
1103	4177	888	0 60		4131	2	STA	MLOC		
1104	4131	888	0 2		4585		LDA	С		
1105	4585	888	0 30		4389		LDL#	00000		88888
1106	4389	888	0 82		4142		TEQ			1F
1107	4692	888	0 20	4545	4545		CLA	3F		
1108	4142	888	1 08	0004	4745	1	LIRS	0004		
1109	4745	888	0 0	4647	4132		LDX	25		FPERR
1110	4132	888	0 30	4134	8810	FPERR	LDL	PERR		FIND*
1111	4647	858	0 75	B6FC	4545	2	SUB	MLOC		3F
1112	4545	888	0 60	BSFB	4649	3	STA	TEMP2		
1113	4649	888	0 2		4153		LDA	MLOC		7F
1114	4153		0 30		4507	7	LDL	RA		
1115	4507	886	0 8		4686		MULA	00000		0A005
1116	4686		0 60		4140		STA	TEMP		
1117	4140		0 20		4693		CLA			
1118	4693		0 3		4650		SHR	0400		
1119	4650	888			4104		LDA	RX		
1120	4104		0 70		4659		ADD	RA		
1121	4659			_	4463		ERSA	OOHHH		H0000
1122	4463				COOA		BUF			RA
1123	4315		0 08		4370		LIRI	0000		
1124	4370	888			4173		CLA			
1125	4173	888			4328		SUB	TEMP		
1126	4328	886			4334		SHL	0300		
1127	4334	888			4338		ERSA	00000		30000
1128	4338	888	_		AOOO		SUB			RA
1129	4340	888		-	4195		LIR	0000		
1130	4195	858			4099		LDA	TEMP		
1131	4099		0 37		4108		SHL	0600		
1132	4108		0 3		4162		ERSA	ОООНО		00000
1133	4162	338	0 20	4314	4316		BUF	1F	_	
1134	n 4	000			***		HHH		C	
1135	4316	388	-		8965	•	ATL	~~~		OF
	8965	888			8403	0		80000		
1137 1138	8403		1 25		8966	80000		80006		2F
	8406	888	-		8966	80003		80010		2F
1139	8404	886			0000	50001	CON	00000		00000
1140	8407	858			НННН	80004	CON	HHHHH		НННН
1141	8966		2 05	_	0008	2	LDX4	80001		RL
1142	4314		0 32		8967	1	SHR	0000		7F
	8967		0 60		8968	7	STA	MASK		84
1144	8968	888			8969		LDL4	80002		-82
1145 1146	8969	888	0 29		0008	-82 -82	LDA1	00001		RL
1147	8405	888			8971	90002	BUF	MASK		8F
1148	8409	898			3971	80005	ERS	MASK		8F
* * ~ 5	DACA	898	0 50	0000	0000	80006	CON	5000Û		00000

			-							
1149	8410	888	0	40	0000	0000	80007	CON	40000	00000
1150	8411	888	0	20	0000	0000	80008	CON	20000	00000
1151	8412	898	0	10	0000	0000	50009	CON	10000	00000
1152	8413	888	ō	CH	HHHH	HHHH	80010	CON	CHHHH	ННННН
1153	8414	388	0	BH	HHHH	HHHH	80011	CON	ВНННН	HHHHH
1154	8415	888	0	FH	HHHH	HHHH	80012	CON	FHHHH	ННННН
1155	8416	886	0	GH	HHHH	HHHH	80013	CON	GHHHH	HHHHH
1156	8971	898	0	64	B418	9972	8 .	STAL	00001	
1157	8972	888	0	25	BSFB	8973		LDA	TEMP2	
1158	8973	888	0	75	BAFB	8974		SUB	TEMP!	
1159	8974	888	0	70	B975	8976		ADD		-B1
1160	3975	888	0	99	9999	9999		CON	99999	99999
1161	8977	888	0	60	85FB	4450	481	STA	TEMP2	BVAR
1162	4496	888	0	OG	0000	8978	BVAR1	IIRI	0000	
1163	8978	888	0	70	8979	8969		ADD		-82
1164	8979	888	Q	99	9800	0000		CON	99980	00000
1165	8970	868	0	20	8980	ACCC	8 B2	SUF		RA
1166	8980	888	0	QB	0000	3981		LIRI	0000	
1167	8981	888	0	25	B2FC	5982		LDA	MASK	
1168	8982	855	0	30	000C	8983		LDL	RX	
1169	8983	358	0	32	0100	8984		SHR	0100	
1170	8984	888	0	82	8985	8967		TEQ		78
1171	8985	858	1	07	0001	3986		IIR2	0001	
1172	8986	888	0	30	8967	8965		LDL	78	QB
1173								HHH		Н
1174	BAAG	888	0	05	4718	4179	EQU	LDX	2F	FP2ER
1175	4718	886	0	60	B6FC	8976	2	STA	MLOC	-81
1176	4134	335	0	30	BACE	8736	PERR	LDL	PSUDX	ERR1*
1177	BASE	888	Q	25	BJFC	4570	COR	LDA	CORE	
1178	4570	858	0	70	4772	4775		ADD#	00000	10000
1179	4775	888	0	06	4528	4528		CLX		
1180	4528	898	0	32	0400	4785		SHR	0400	
1181	4785	888	0	20	4687	4589		BUF#		0B000
1182	4589	888		60	BAFC	4143		STA	MLOC	
1183	4143	858		05	4395	4179	_	LDX	2F	FP2ER
1184	4395	888	-	37	0400	4502	2	SHL	0400	
	4502	898			BJFC	4707		ADD	CORE	
1186	4707	888			000A	4161		LDX	RA	***
1188	4663	888		70	4663	4516		ADD	00000	-83
1189	4517				9000	0000	***	CON	99900	00000
1190	4321	888		25	4169	4321	883	LDAN		00003
1191	4516			05	4134	3760	** **	LDX	PERR	ERR2*
1192	3976	888	-	65	BJFC	8976	-83	STX	CORE	-B1
1193		888		08	0000	4373	-81	LIR3	0000	
1194	4373	888		05	4134	4336		LDX	PERR	# Tains
1195	4336 4538	388		30	4538	3810		LDL	VA000	FIND*
1196		398	1	00	5688	8688	VA044		X0000	
1197	8688	888		25	BOFC	4097	X0000	LDA	MLOC	1F
	8689	888			BOFC	4097	X0001	LDA	MFOC	1F
1198	3690	888	U	UU	BJAG	BACE	X0002	JMP	PSUDX	

C4. RESERVE CORE

IF M IS UNDEFINED: OR THERE ISNT ENOUGH ROOM
IN CORE THIS IS AN ERROR. OTHERWISE RESERVE
THE SPACE IN CORE: AND GO TORCS.

C5. DEFINE ADDRESS

FIND A (ROUTINE Q). IF DEFINED. OR IF A
PAIR ADDRESS. THE A FIELD IS IN ERROR. ELSE
IF NONBLANK DEFINE IT (ROUTINE D).
GO TO#P15.

1200	8691	888 0 25	B6FC	4097	X0003	LDA	MLOC	1F		
1201	8692	888 0 25	BAFC	4097	X0004	LDA	MLOC	1F		
1202	5693	888 0 00		4134	X0005	JMP	PERR	•		
1203	4097	888 0 30		3861	1	LDL	PSUDX	DEFN+		
1204	,				•	ННН	, 300			
1205	4239	888 0 05	4056	0458	ONN	LDX	ONSW	1F		
1206	BSAH	888 0 05		0458	OFF	LDX	OFFSW	1F	C6.	ON OFF
1207	0458	888 0 65		0462	1	STX	OPTIM	4.5	CO	IF M ADDRESS MATCHES THE TYPE OF PROGRAM. THE
1208	0462	888 0 05		4179	•	LDX	QF I, FFI	FP2ER		MASTER SWITCH IS TURNED ON OR OFF. GO TOMPIS.
1209	0464	888 0 30		0468		LDL	TYPE	1 ()		MADIER SETTON IS TUNNED ON OFFE GO TONITSE
1210	0468	888 0 82		BJAG		TEQ	1.17	PSUDX		
1211	0471	888 0 30		0475		LDL	OPTIM	r agu n		
1212	0475	888 0 50		BJAG		STL	SWICH	PSUDX		
1213	BEAH	88B 0 67		0568	TYP			POQUA		
1214	0568	888 0 50		0668	117	HLT	RL			
1215	0668	888 0 50	-			STL	TYPE	2007		
1216				BAG	AMEEN	STL	0241	PSUDX		
1217	0470 0473	888 0 31 888 0 25		0473	OFFSW	CLL	FT46			APPRING OFF
1218				0477		LDA	FTAG	50.1		ASSEMBLER OFF
1219	0477	888 0 82		4189		TEQ		-PRI		DIF FLOWCHARTING . GO TORE!
1220	0480	888 0 25		0484		LDA	1F		OFF	FIOTHERWISE PRINT THE WORD OFF ON THE LISTING.
	0484	888 0 05	_	0488		LDX	2F			RETURNING TO#P17.
1221	0488	888 0 60		0567		STA	0365			
1222	0567	898 0 65		0572		STX	0370			
1223	0572	888 0 06		0575		CLX				
1224	0575	888 0 63		0578		ZAP				
1225	0578	888 0 60		0452		STA	0250			
1226	0452	888 0 65		0457		STX	0255			
1227	0457	89B 0 60	-	0483		STA	0281	_		
1228	0483	888 0 65		4112		STX	0286	FIN		
1229	0482	898 0 88		6588	1	MUM	*** D	FF **		
1230	0486	888 0 22	2021	1022	2	ZON	*** 0	FF **		
1231						HHH	н			
1232	4332	888 0 77		4536	CMPL*	ATL			X.	EXAMINE REMARKS FIELD
1233	4536	888 0 25	BOAC	4540		LDA	MUMI		G	CMPL* PUTS INSTRUCTION IN RA INTO MUM CODE
1234	4540	888 0 60	BTAC	4344		STA	MUML	1F	G	MUML IS THE LOCATION OF LAST MUM INSTR.
1235	4736	88B 0 25	B6AC	4344	COMP#	LDA	MUMI	1F	G	COMP* PUTS WORD IN RL INTO HUM CODE
1236	4344	898 0 70	4696	4299	1		00000	20000	G	BUT IT ISNT REALLY AN INSTRUCTION
1237	4299	888 0 60	BOAC	4353		STA	MUMI	2F	G	EXIT IS IN RX. IN BOTH CASES.
1238	4353	888 0 70	4305	GOOA	2	ADD	-	RA		THIS ROUTINE IS ENTERED ON EVERY CARD EXCEPT
1239	4305	888 0 50	5199	0000		STL	W9999	RX		PAT AFTER FLO HAS APPEARED.
1240	4740	888 0 50	4342	4544	COMT*	STL	-com			THE PURPOSE IS TO SEND INFORMATION TO PASS 3
1241	4544	888 0 25		4548		LDA	COMI			FOR FLOWCHARTING. THIS INFORMATION IS
1242	4548	888 0 60	-	4702		STA	R84			TRANSMITTED AS A MADE-UP-MACHINE OR MUM
1243	4702	888 0 25		4156		LDA		8F		PSEUDOCODE. SPECIFICATIONS OF MUM GIVEN
1244	4304	888 0 00		3669		JMP	R0009	R0000		IN THE PASS 3 LISTING.
1245	4156	898 2 88		4573	8		COMTS		G	MOVE ALL REMARKS TO THE COMMENTS TAPE
1246	4573	888 2 07		4377			0010		G	FOR USE BY PASS 3.
1247	4377	888 0 60		4331		STA	COMI		•	ਹਨ। ਵਿਖਾਲ ਵਿਚ ਹਿਲਵਾਂ ਵੱਚ
1248	4331	88B 0 70		4342		ADD	4	-COM		
	-					7				

			_							
1249	4583	888	Ú	99	9800	0000		CON	99980	00000
1250	4343	898	Q	60	BBAC	4297	&COM	STA	COMI	
1251	4297	858	0		4699	4301		LDX	25	
1252	4301	888	0	30	4553	8919		LDL		TSUB*
1253	4553	688	0	C6	3400	4699		TBL	COMTS	2F
1254	4699	358	0	H2	0700	4342	2	TWR	OTAPS	-COM
1255	4505	888	ğ		8669	4109	BDK	LDA	R0000	
1256	4109	888		35	4361	4313		ERSA	00000	HHHHH
1257	4313		Q	60	8669	4667		STA	R0000	,
1258	4667	888		25	8670	4521		LDA	R0001	
1259	4521	888	ā	35	4773	4326		ERS#	00000	HHHHH
1260	4326		ā	20	4728	4580		BUF#	88888	00000
1261	4580	888	ō	60	8670	000B		STA	R0001	RL
1262	4312	888	1	08	0007	4515	FLOW	LIR3	0007	
1263	4515	888	-	25	8670	4519	. 504	LDA	R0001	
1264	4519	888		06	4124	4124		CLX		
1265	4124	888			BSFH	4178		STX	RTAG	
1266	4178	888			0500	4186		SHR	0500	
1267	4186	888	ō	77	4186	4789		ATL		
1268	4789	888	ō	25	B669	4543		LDA	R0000	
1269	4543	858	-	35	4595	4497		ERS#	НННН	00000
1270	4497	888	ā	20	0008	4501		BUF	RL	
1271	4501	888	ō	60	BOAB	4705		STA	DK	
1272	4705	886	ō	30	4157	4309		LOL#	00000	88888
1273	4309	888	0	82	4362	4562		TEO	\$5	
1274	4562	888	ō	30	4514	4716		LDL#	03000	87888
1275	4716	888	ō	82	4719	4369		TEO	0,5000	1F
1276	4719	888	ā	60	BAFH	4324		STA	RTAG	•
1277	4324	858	0	30	4362	4505		LDL	\$5	aDK
1278	4369	888	0	30	4721	4524	1	LDL#	01000	87855
1279	4524	858	0	82	4577	4777		TEO		1F
1280	4577	888	0	30	4112	4505		LDL	FIN	BOK
1281	4777	888	0	30	4379	4531	1	LDL#	01211	83649
1282	4531	888	0	82	4534	4734		TEQ	\$6	
1283	4734	888	0	30	4386	4738		LDL#	03112	83123
1284	4738	898	0	82	4141	4341		TEO		1F
1285	4141	898	0	05	4534	4736		LDX	56	COMP#
1286	4341	898	Ü	35	4743	4795	1		HOHHH	НОННН
1267	4795	888	Q	30	4697	4149		LDL#	00100	BOABB
1288	4149	898	Q	82	4152	4352		TEO	54	2,0 ()
1289	4352	888	0	35	4504	4356		ERSH	HHHHH	HHOHH
1290	4356	888	0	30	4308	4560		LDL#	00010	BOOAB
1291	4560	888	0	82	4513	4713		TEO	1F	
1292	4713	888	0	35	4715	4117		ERSA	HHHHH	HHHHHH
1293	4117	888		30	4569	4171		LDL#	00001	8000A
1294	4171	888	0	82	4174	4374		TEC		53
1295	4174	888	0	25	BOAB	4378		LDA	DK	
1296	4378	886	0	35	4780	4532		ERS#	00000	OHHO
1297	4532	888	O	37	0300	4188		SHL	0300	2F
1298	4513	888	0	25	BOAB	4317	1	LDA	DK	
			-							

G BOK: BLANK OUT COLS 32-35 AND GO TO RL.

X1. WHAT DK FIELD
COLUMNS 32-35 ARE THE DOCUMENTATION KEY OR DK
FIELD. AND THEY CONTROL THE FLOWCHARTING OPER
ATION.

IF THE DK FIELD IS BLANK. GO TOWX2.

G :IF IT IS G. BLANK IT OUT AND GO TOWP17.

G IS USED TO PUT REMARKS ON THE ASSEMBLY LISTING.

COD: IF IT IS CODI. THIS IS THE BEGINNING OF THE WORDS CODING DETAILS. TOWAS.

TAB: IF IT IS TABL. THIS IS THE BEGINNING OF THE WORDS TABLE OF CONTENTS. COMPILE THE DK FIELD AS AN OJ OP IN MUM CODE. THIS SPECIAL CASE IS EXAMINED BY PASS J. THEN GO TOWNJ.
K. :IF IT IS THE FORM K. THIS INDICATES A NEW

SECTION WITH KEY K. GO TO#X6.
KN.:IF IT IS OF THE FORM KN. OR KNN. IT IS A NEW SUBSECTION NAME. CHECK THAT THEY ARE NUMBERED SEQUENTIALLY AND IF NO ERROR GO TO#X4.
OTHRANYTHING ELSE IS A CONDITION NAME. TO#X5.

		· ·						
1299	4317	888 0 35	4769	4371		ERS#	00000	00H00
1300	4371	888 0 37	0200	4188		SHL	0200	2F
1301	4188	888 0 70	OCOA	4193	2	ADD	RA	
1302	4193	888 0 30	4146	4748		LDL	N	
1303	4748	888 C 87	4701	4151		TGR	S2	
1304	4151	888 0 30	4362	8736		LDL	\$5	ERR1+
1305	4362	888 0 08	0000	4367	35	LIRI	0000	-NO#
1306	4367	888 0 29	8670	4574	-NO#		R0001	
1307	4574	888 0 35	4526	4578		ERS#	88888	88888
1308	4578	888 0 75	AODO	4783		SUB	RA	
1309	4783	888 0 77	4783	4586		ATL		
1310	4586	888 0 29	8670	4541		LDA1	R0001	
1311	4541	888 0 35	4393	4346		ERS#		66666
1312	4346	888 0 C1	4346	4349		MTX		
1313	4349	888 C 70	4351	4704		ADD#	33333	33333
1314	4704	888 0 35	8000	4508		ERS	RL	
1315	4508	888 0 77	4508	4561		ATL		
1316	4561	888 0 29	8669	4166		LDAI	R0000	
1317	4166	888 Q 70	4568	4571		ADDA	33333	33333
1318	4571	888 0 35	0008	4726		ERS	RL	
1319	4726	888 0 31	4579	4579		CLL		
1320	4579	888 0 82	4732	4182		TEQ		1F
1321	4732	888 0 0G	0002	4786		IIRI	0002	
1322	4786	888 0 70	4388	4367		ADD		-NO#
1323	4388	858 0 99	9990	0000		CON	99999	00000
1324	4368	886 0 00	4534	4534	PHON	JMP	\$6	
1325	4182	888 0 30	4184	4137	1	LDL#	11111	11111
1326	4137	898 0 20	0008	4741		BUF	RL	
1327	4741	888 0 85	AOOO	4770		MUL	RA	
1328 1329	4770	888 0 35	4774	4176		ERSA	00000	0000H
1330	4176	888 0 37	0600	4337		SHL	0600	
1331	4337 4390	888 0 77 888 0 70	4337	4390		ATL		
1332	4546	888 0 60	4542 BOAC	4546 4100		ADD	IF SHRI	
1333	4100	888 0 25	4552			LDA#		00000
1334	4154	888 0 75	0008	4154		SUB	00090	00000
1335	4509	888 0 70	4542				RL	
1336	4746	888 0 60		4746		ADD	1F	46
1337	4542	888 0 32	91AC	4300 0008	1	STA	SHR2	2F
1338	4300	888 0 29	8670	4155	ž		R0001	RL
1339	4155	388 0 09	8672	4760	4		R0003	
1340	4760	888 0 30	4762	BOAC		LDL	ROUUS	SHR1
1341	4762	888 0 35	4366	4768			ннннн	нннна
1342	4768	858 0 65	83F8	4376		STX		U. ALL
1343	4376	888 0 30	4778	BIAC			TEMP	SHR2
1344	4778	888 0 32	0100	4384		LDL	0100	JULY &
1345	4384	888 0 69	8670	4590			R0001	
1346	4590	888 0 29	8669	4196			R0000	
1347	4196	888 0 09	8671	4551			R0002	
1348	4551	888 0 30	4753	SAOB	-	LDL	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	SHR 1
_				ent or Frank				

X2. SCAN FOR # LOOK THROUGH ALL REMARKS FOR A NUMBER SIGN.

GATHER TOGETHER THE SHARACTERS FOLLOWING IT.

UP UNTIL THE NEXT CHARACTER WITH UNDIGITS.

THE PRINTING CHARACTERS + AND / ARE NOT

DELIMITERS. THE OTHERS ARE.) THIS FORMS THE

BRANCH WORD. IF NO CONDITION PRECEDED.

COMPILE AN 09 OP. IF THE BRANCH WORD REFERS

TO THIS CHART. PUT M AND C INTO THE LAST

COMPILES INSTRUCTION. PUT A RECORD FOR THIS

ENTRY AND N IN THE STOP TABLE AS THE LAST

BRANCH TO M. OTHERWISE. COMPILE THE BRANCH

WORD INTO THE MUM CODE.

IN CONSIDERATION OF THE RECEIPT OF THIS DOCUMENT. THE RECIPIENT AGREES NOT TO E.COPY. USE OR TRANSMIT THIS DOCUMENT AND/OR THE INFORMATION THEREIN CONTAINED. OR IN PART, OR TO SUFFER SUCH ACTION BY OTHERS, FOR ANY PURPOSE, EXCEPT WITH THE FERMISSION OF SPERRY RAND CORPORATION, AND FURTHER AGREES TO SURRENDER SPERRY RAND CORPORATION, UPON DEMAND
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1349	4753	888 0 35	4357	4709		ERS# HH	онын нин
1350	4709	888 0 30	4761	BIAC		LDL	SHR2
1351	4761	888 0 32	0100	4717			100
1352	4717	888 0 69	8669	4576		STX1 RO	
1353	4576	888 0 30	4779	BOAC		LDL	SHR1
1354	4779	888 0 35	4584	4537			00000 HHH
1355	4537	888 0 77	4537	4790		ATL	
1356	4790	888 0 25	83F8	4744			MP
1357	4744	888 0 06	4147	4147		CLX	
1358	4147	888 0 32	0500	4355			500
1359	4355	55B 0 20	0008	4159		BUF RL	
1360	4159	858 0 60	BJFB	4163			MP
1361	4163	888 0 25	87AC	4167		LDA MU	
1362	4167	888 0 60	BZAB	4771		STA RE	
1363	4771	888 2 25	5201	4354			001
1364	4354	858 0 70	4556	4363		ADD	-#
1365	4556	888 0 98	0000	0000			00000
1366	4363	888 0 25	4566	4776	-#		00000
1367	4776	888 0 05	4364	4332		LDX &#</td><td></td></tr><tr><td>1368</td><td>4364</td><td>888 0 30</td><td>BJFB</td><td>4731</td><td>8#</td><td>LDL TE</td><td>MP</td></tr><tr><td>1369</td><td>4731</td><td>888 0 05</td><td>4784</td><td>4737</td><td></td><td>LDX</td><td>1F</td></tr><tr><td>1370</td><td>4784</td><td>858 0 88</td><td>8880</td><td>0000</td><td></td><td></td><td>00000</td></tr><tr><td>1371</td><td>4737</td><td>888 0 25</td><td>4191</td><td>4593</td><td>1</td><td>LDA</td><td>8F</td></tr><tr><td>1372</td><td>4191</td><td>888 1 00</td><td>0000</td><td>0000</td><td>•</td><td></td><td>00000</td></tr><tr><td>1373</td><td>4593</td><td>888 0 70</td><td>0008</td><td>4198</td><td>8</td><td>ADD RL</td><td></td></tr><tr><td>1374</td><td>4198</td><td>898 0 82</td><td>4751</td><td>4752</td><td>•</td><td>TEQ 2F</td><td></td></tr><tr><td>1375</td><td>4752</td><td>888 Q 25</td><td>0008</td><td>4756</td><td></td><td>LDA RL</td><td></td></tr><tr><td>1376</td><td>4756</td><td>688 0 32</td><td>0100</td><td>4563</td><td></td><td></td><td>100</td></tr><tr><td>1377</td><td>4563</td><td>888 0 35</td><td>4165</td><td>4567</td><td></td><td></td><td>нин оннин</td></tr><tr><td>1378</td><td>4567</td><td>888 0 77</td><td>4567</td><td>4737</td><td></td><td>ATL</td><td>18</td></tr><tr><td>1379</td><td>4751</td><td>858 0 25</td><td>0000</td><td>4555</td><td>2</td><td>LDA RX</td><td></td></tr><tr><td>1380</td><td>4555</td><td>888 Q 35</td><td>4557</td><td>4359</td><td></td><td></td><td>ооо нини</td></tr><tr><td>1381</td><td>4359</td><td>888 0 20</td><td>9000</td><td>4763</td><td></td><td>BUF RL</td><td></td></tr><tr><td>1382</td><td>4763</td><td>888 0 77</td><td>4763</td><td>4766</td><td></td><td>ATL</td><td>2F</td></tr><tr><td>1383</td><td>4766</td><td>888 0 25</td><td>BJFB</td><td>4181</td><td>2</td><td>LDA TE</td><td>HP</td></tr><tr><td>1384</td><td>4181</td><td>888 0 50</td><td>BJFB</td><td>4187</td><td></td><td>STL TE</td><td>MP</td></tr><tr><td>1385</td><td>4187</td><td>888 0 35</td><td>4391</td><td>4793</td><td></td><td>ERS# HO</td><td>0000H0000</td></tr><tr><td>1386</td><td>4793</td><td>888 0 30</td><td>B9AC</td><td>4347</td><td></td><td>LDL KE</td><td>Y</td></tr><tr><td>1387</td><td>4347</td><td>888 0 82</td><td>4500</td><td>4700</td><td></td><td>TEQ</td><td>2F</td></tr><tr><td>1368</td><td>4500</td><td>888 0 25</td><td>3JF8</td><td>4554</td><td></td><td>LDA TE</td><td>MP</td></tr><tr><td>1389</td><td>4554</td><td>BBB 0 35</td><td>4757</td><td>4559</td><td></td><td>ERS# HH</td><td>нон нно</td></tr><tr><td>1390</td><td>4559</td><td>888 0 30</td><td>4714</td><td>4767</td><td></td><td>LDL# DO</td><td>000 BB800</td></tr><tr><td>1391</td><td>4767</td><td>888 0 82</td><td>4381</td><td>4581</td><td></td><td>TEG</td><td>3F</td></tr><tr><td>1392</td><td>4381</td><td>888 0 25</td><td>4387</td><td>4591</td><td></td><td>LDA</td><td>4F</td></tr><tr><td>1393</td><td>4387</td><td>888 0 00</td><td>0000</td><td>OOOH</td><td></td><td></td><td>H0000</td></tr><tr><td>1394</td><td>4581</td><td>988 Q 25</td><td>BJFB</td><td>4587</td><td>3</td><td>LOA TE</td><td></td></tr><tr><td>1395</td><td>4587</td><td>898 0 35</td><td>4791</td><td>4194</td><td></td><td>ERS# HH</td><td>000HH HH000</td></tr><tr><td>1396</td><td>4194</td><td>888 0 30</td><td>4396</td><td>4398</td><td></td><td>LDL# 00</td><td>000 88000</td></tr><tr><td>1397</td><td>4398</td><td>898 0 82</td><td>4754</td><td>4700</td><td></td><td>TEO</td><td>2F</td></tr><tr><td>1388</td><td>4754</td><td>888 0 25</td><td>4708</td><td>4591</td><td></td><td>LDA</td><td>4F</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>	

1400

1401

1402

1403

4708

4596

4755

4164

888 0 00

888 0 35

888 0 37 888 0 70

888 0 60

0000

BJFB

0400

OOOA

B2AB

OOHH

4596

4755

4164

4781

1403	4164	988			4781		STA	RB4			
1404	4781		0 7	•	4787		ATL				
1405	4787		0 2		4394		LDA	SERAL			
1406	4394	886	0 7	4796	4549		ADD#	00000	00001		
1407	4549	858	0 6	4742	4594		STA	SERAL			
1408	4594	886	0 7	0008	4749		ADD	RL			
1409	4749	888	0 0	5 BTAC	4158		LDX	MUML			
1410	4158	888	0 6	BAKB 6	4564		STX	R85			
1411	4564	888	3 7	5201	4358			W0001			
1412	4358	888	3 6	0 5201	4558			M0001			
1413	4558		0 2		4598		LDA	N			
1414	4598		0 7				ADD	SERAL			
1415	4547	888	2 6	5001	4534		STA4		56		
1416	4700	888	0 3	0 83FB	4758	2	LDL	TEMP			
1417	4758		0 0		4736		LDX	56	COMP*		
1418	4534		0 3		4192	56	LDL#		88888	x3.	TRANSFER REMARKS
1419	4192		0 2				LDA	R0001			IF THE REMARKS AREN'T ALL BLANK. COPY THEM
1420	4747		0 8				TEQ		1F		ONTO THE COMMENTS TAPE 7. GO TOMP17 UNLESS
1421	4150	888	0 2		4759		LDA	R0003			DK FIELD WAS X+ IN WHICH CASE WE GO TO
1422	4759		0 8		4350		TEO		1F		E1 DIRECTLY.
1423	4764		0 2		4382		LDA	R0005	_		
1424	4382		0 8		4350		TEO	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	15		
1425	4788		0 2		4392		LDA	R0007	•		
1426	4392		0 8		4350		TEO	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1F		
1427	4197		0 2		4365		LDA	R0009	•		
1428	4365		0 8		4350		TEO	2F	1F		
1429	4350		0 3		4740	1	LDL	4. F	CONT*		
1430	4765		0 2		4592	-	LDA		8 F		•
1431	4782	888			8669		JMP	R0009	R0000		
1432	4592		0 8		4582	8	TOC	Z0000	2F		
1433	4582		0 2		4792	2	LDA	RTAG			
1434	4792		0 3		4397		CLL				
1435	4397		0 8		4189		TEO	FIN	-PRI		
1436	0989	888	0 0	0000	0000	Z0000	CON	00000	00000		
1437	0991		0 0		0000	Z0002	CON	00000	00000		
1438	0993		0 0		0000	Z0004	CON	00000	00000		
1439	0995	888	0 0	0000	0000	Z0006	CON	00000	00000		
1440	0997	958	0 0	0000	0000	Z0008	CON	00000	00000		
1441	0990	958			3898	Z0001	CON	88888	88888		
1442	0992	888			8888	20003	CON	88888	88989		
1443	0994	868	0 8	8888	8888	Z0005	CON	88888	88888		
1444	0996	888	0 8	8 8888	8886	Z0007	CON	88888	88888		
1445	0998	988	0 8	8 8888	8888	Z0009	CON	8888B	88888		·
1446							HHH				·
1447	4701	888	0 6	4146	0548	S2	STA	N		X4.	COMPILE OI OP
1448	0548	888	0 7	0550	9553		ADD#	01000	00000		COMPILE AN OI OP FOLLOWED BY THE LINE NUMBER.

CON

ERS

SHL

STA

00000

0400

TEMP

RA

RB4

000HH

1449	0553	888 0 05	0555	4332		LDX	CMPL*		AND TRANSFER THE SUBSECTION NAME: COLUMNS
1450	0555	888 0 30	BIFG	3559		LDL LINE			32-60. TO THE MUM CODE AREA AND THE COMMENTS
1451	0559	888 0 05	0561	4736		LDX	COMP*		TAPE ALSO. TOMP17.
1452	0561	898 0 30	0563	4740		LDL	COMT*		
1453	0563	888 G 25	B6AC	9767		LDA MUMI			
1454	0767	888 0 60	BZAB	0571		STA R84			
1455	0571	888 2 07	0006	0775		IIR4 0006	•		
1456	0775	888 0 60	BEAC	0579		STA MUMI			
1457	0579	898 Q 25	0581	0583		LDA	ef		
1458	0581	888 0 00	8670	8669		JMP R0001			
1459	0583	888 2 88	5194	0599	8	TCD4 W9994			
1460	0599	888 Q 70	0401	0404		ADD# 00000			
1461	0404	888 2 88	5196	0420		TCD4 #9996			
1462	0420	888 0 70	0422	0425		ADD# 00000			
1463	0425	88B 2 B8	5198	4112		TCD4 #9998			
1464	4374	858 0 30	0576	4505	\$3	LDL	8DK	X5.	COMPILE CONDITION
1465	0576	888 0 25	8670	0580		LDA ROCO		- 14	BLANK OUT THE DK FIELD. IF COLS 36-40 ARE
1466	0580	888 Q 35	0582	0584		ERS# 00000			BLANK THIS INDICATES A BRANCH TO THE NEXT
1467	0584	888 0 30	0586	0588		LDL# 00000			SECTION SO AN OB OP IS SELECTED. OTHERWISE
1468	0588	858 0 82	0591	0791		TEQ IF			THE LAST OF COMPILED IS INCREASED BY 1.
1469	0791	888 0 25	BTAC	0595		LDA MUML			IF IT WAS AN OL SELECT OF OF ELSE SELECT
1470	0595	888 0 60	BZAB	0799		STA RB4			OP OS. FINALLY COMPILE THE SELECTED OP
- 1471	0799	888 2 25	5201	0403		LDA4 W0001			FOLLOWED BY THE CONDITION NAME. GO TOWX2
1472	0403	858 0 70	0405	0408		ADD# 01000			TO SCAN THE REST OF THE REMARKS.
1473	0408	898 2 60	5201	0603		STA4 WOOD!			
1474	0603	888 Q 70	0605	0608		ADD	-FLO		
1475	0605	858 0 97	0000	0000		CON 97000			
1476	0608	888 0 25	0410	0412	-FLO	LDA	2F		
1477	0410	89B 0 06	0000	0000		CON 06000			
- 1478	0609	88B 0 25	0411	0412	&FL0	LDA	2F		
1479	0411	888 0 05	0000	0000		CON 05000	00000		
1480	0591	88B 0 25	0593	0412	1	LDA	2 F		
1481	0593	888 0 08	0000	0000		CON 08000	00000		
1482	0412	888 0 05	0414	4332	2	LDX	CMPL*		
1483	0414	888 0 30	BOAB	0418		LDL DK			
1484	0418	898 0 05	4362	4736		LDX S5	COMP#		
1485	4152	888 0 05	0554	0556	S 4	LDX# 03000	00000		
1486	0556	888 0 30	0558	0560		LDL	TERM#	X6.	FINISH PREV SECTION
1487	0558	888 0 25	BOAS	0562		LDA DK			COMPILE 03 OP AND THEN PUT OUT A
1488	0562	88B 0 37	0100	0566		SHL 0100			SENTINEL ON THE COMMENTS TAPE. WRITE THE
1489	0566	888 0 35	0768	0570		ERS# HOOOD	H0000		STOP TABLE FOLLOWED BY ALL THE MUM CODE
1490	0570	888 0 60	BOAC	0574		STA KEY			ON THE CONTROL TAPE 6. THERE IS ROOM FOR
1491	0574	888 0 31	0577	0577		CLL			ABOUT 1500 LINES OF MUM CODE.
1492	0577	888 0 08	0000	0780		LIR1 0000		X7.	INITIALIZE
1493	0780	888 Q 54	5001	0803	-CLR	STL1 STOPT			RECORD THE NEW KEY LETTER SKIP TO THE NEXT
1494	0803	888 0 06	0002	0407		IIR1 0002			PAGE ON THE ASSEMBLY LISTING.
1495	0407	856 0 70	0409	0780		ADD	-CLR		WRITE THIS LINE ON THE COMMENTS TAPE AND
1496	0409	BBB 0 99	9800	0000	• • • •	CON 99980	00000		RETURN TOMP17.
1497	0781	888 0 50	BEAC	0585	SCLR	STL MUMI			
1498	0585	688 0 50	BBAC	0589		STL COMI			

-		-							
1499	0589	888 0 50	4742	0594		STL SE	RAL		
1500	0594	888 0 50	4146	0598		STL N			
1501	0598	888 0 30	0400	0402		LDL	P.	AGE+	
1502	0400	888 0 30	4112	4740		LDL FI	IN C	OMT*	
1503	0402	888 0 50	0804	0406	PAGE+		KIP	G	SKIP TO BEGINNING OF PAGE SUBROUTINE
1504	0406	888 0 25	0808	0610	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	LDA# 00		0066	
1505	0610	888 0 75	BZAC	0415		SUB LC			
1506	0415	888 0 31	0618	0618		CLL			
1507	0618	88B 0 50	BZAC	0622		STL LC			
1508	0622	888 0 37	0400	0429			400		
1509	0429	888 0 30	0431	0433				0000	
1510	0433	888 0 87	0436	0636		TGR	1		
1511	0436	888 0 70	0438	0441			_	0000	
1512	0441	888 Q 20	0443	0636		BUF	1		
1513	0443	888 0 00	0040	0000				0000	
1514	0636	888 0 70	0638	DOOA	1	ADD	R		
1515	0638	888 0 16	0000	0804	•			SKIP	
1516	0805	88B 0 67	3333	OOOA	ASKIP		3333 R		
1517	0560	888 0 50	BOFB	0564	TERM*		(IT	G	TERMINATE SECTION SUBROUTINE.
1518	0564	888 0 31	0967	0967	1 E (A)	CLL	•••	G	RL IS THE EXIT. RX IS THE 03 OR 04 TO COMPILE
1519	0967	858 0 25	BEAC	0771			JMI	G	THIS SUBROUTINE DOES WHAT IS DESCRIBED
1520	0771	858 0 82	BOFB	0774			(11	G	UNDER SUBSECTION X6.
1521	0774	888 0 30	0000	0778		LDL RX		•	ORDER SUBSECTION AGO
1522	0778	888 0 05	0980	4736		LDX		OMP*	
1523	0980	888 0 25	BBAC	0784			IMC	, w) (1 ·	
1524	0784	858 0 30	0786	0788				9999	
1525	0788	858 0 70	0590	AOOC		ADD		A	
1526	0590	888 0 50	3401	3003			4TS1	1	
1527	3003	888 0 05	3005	0607		LDX 2F			
1528	0607	888 0 30	0809	3919		LDL		SUB*	
1529	0809	888 0 C6	3400	3005				F	
1530	3005	388 0 H2	0700	0822	2		TAP3	11	F
1531	0822	888 0 08	0000	0625	_		000 4	F	
1532	0932	888 0 06	0200	0536	1		200	•	
1533	0536	888 0 30	BOAC	0540	-		JMI		
1534	0540	888 0 87	0543	0625		TGR 3F		F	
1535	0625	888 0 05	0427	0629	4	LDX 2F	,		
1536	0629	888 0 30	0631	3919	•	LDL		SUB*	
1537	0631	858 0 CF	5000	0427		TBL1 W9			
1538	0427	858 0 H2	0600	0532	2	TWR OT			
1539	0543	888 0 25	0545	0547	3	LDA# 99		9999	
1540	0547	888 0 64	5199	0601	•	STAL W9		****	
1541	0601	858 0 05	3203	3205		LDX 2F			
1542	3205	888 0 30	0807					'Cilm'a	
1543	0807	898 0 CF	5000	3203		LDL TBL1 W9		SUB*	
1544	3203	898 0 H2	9690	80F8	2			XIT	
1545	0745	888 0 G2	0300	0762	50P		TAP1	_	. BEGINNING OF ASSEMBLY
1946	0762	888 0 C7	3167	0565	₩.	TET		-	1. CHECK INPUT TAPE
1547	3167	898 0 67	4444	0745					OLD IF INPUT TAPE ISNT READY HALT AND RETURN
1548	0565	888 0 25	4223	0975	1		ONI		TO#81.
-970	4205	200 C 62	7463	4415	•	COM IC	, 4114		· Aum f ♦

1549	0975	888 0 60	B8FG	0779		STA	TCONT		GO 1	
1550	0779	898 0 25	0745	0747		LDA	BOP		82.	READ BLOCK
1551	0747	888 0 60	89FG	0551		STA	LTAPE			READ IN FIRST BLOCK INTO INPUT BUFFER
1552	0551	888 0 05	0753	0755		LDX	1F			
1553	0755	858 0 30	0000	8919		LDL	RX	TSUB*		
1554	0753	888 0 G2	0300	0770	1	TRD	ITAPL	, 000		UNLOAD FIRST TAPE BUFFER AND INITIATE
1555	0770	888 0 25	4624	0776	•	LDA	TCONZ			READING SECOND BLOCK. THE INPUT TAPE IS
1556	0776	888 0 60	BBFG	3180		STA	TCONT			ALWAYS READING ONE BLOCK AHEAD. THERE MUST
1557		5-5 0 00		-200		J 1 ···	100.11		X	THEREFORE BE AN EXTRA HASH BLOCK AFTER THE
1558									X	ENDING SENTINEL.
1559									X	EACH TAPE BLOCK CONTAINS TO LINES.
1560	3180	888 0 30	0782	0984		LDL		15	~	
1561	0782	858 1 00	0000	0001			00000	00001		
1562	0984	888 0 50	BIFG	0988	1	STL	LINE			
1563	0988	888 0 31	3191	3191	_	CLL				
1564	3191	888 0 50	B7FG	0795		STL	TAPEI	1F	83.	INITIALIZE
1565	BPAH	888 0 08	0999	0671	BOPI	LIRI		•	V , W , V	
1566	0671	888 0 31	0474	0474		CLL	2F			
1567	0474	888 0 29	1000	0602	2	LDA1	STAB		G	CLEAR SYMBOL TABLE IN MULTIPLE ASSEMBLY.
1568	0602	888 0 70	0604	3007		ADD		-BOPR	_	
1569	0604	888 0 12	0000	0000		CON	12000	00000		
1570	3007	888 0 54	1000	3008	-BOPR		STAB	ABOPR		
1571	3008	888 0 OG	9999	0612	&BOPR	IIRI				
1572	0612	888 0 82	0795	0474		TEO	15	28		
1573	0795	888 0 50	BJFC	3199	1	STL	CORE			SET LOWER CORE AVAILABLE
1574	3199	888 0 50	B4FC	3603		STL	BLANK			SET BLANK ADDRESS UNDEFINED
1575	3603	888 0 50	87FH	3207		STL	FTAG			SET FLO MODE OFF
1576	3207	898 0 50	BSAC	0611		STL	ACCUM			
1577	0611	888 0 50	BEAC	0615		STL	MUMI			
1578	0615	888 0 50	BZAC	0419		STL	LC			SET LINE COUNTERS TO ZERO
1579	0419	898 0 50	BJAC	0423		STL	LINEO			
1580	0423	898 0 08	0000	0626		LIRI	0000	-68		
1581	0626	888 Q 54	8649	0831	-BP		10000			SET FORWARD AND BACKWARD LOCAL TABLES
1582	0831	888 0 0G	0001	0435		IIRI	0001			(I AND J TABLES) TO UNDEFINED.
1583	0435	888 0 70	0437	0626		ADD		-Bp		
1584	0437	858 0 99	9980	0000		CON	99998	00000		
1585	0627	68B Q 25	0829	3031	&BP	LDA		8F		
1586	0829	888 0 00	B616	8417		JMP	00199	00000		
1587	3031	888 0 80	7800	0446	8	TDC	Y0000			
1588	0446	888 0 88	4800	0461		TCD	70000			
1589	0461	888 0 30	0463	0465		LDL#	Beege	99999		SET DRUM STATUS SO THAT COOL TO 4999
1590	0465	888 0 50	8418	0469		STL	00001			ARE AVAILABLE
1591	0469	888 0 08	0001	2472		LIRI	0001			
1592	0472	888 0 30	0674	0676		LDL		-BP1		
1593	0674	888 0 GG	GGG9	9999	_	CON	GGGGG	99999		
1594	0676	358 U 54	8418	0481	-8P1		00001			
1595	0481	858 0 OG	0001	0485		IIRI	0001			
1596	0485	888 0 70	0487	0676		ADD		-BP1		
1597	0487	888 0 99	9800	0000			99980	00000		
1598	0677	988 0 30	0479	0681	&BP1	LDL#	00000	00888		SET HHH BLANK.

				,						
1599	0681	888	0	50	B6FH	0685		STL	HTAG	
1600	0685	888	0	30	4056	0508		LDL	ONSW	
1601	0508	886	O	50	4439	0541		STL	SWICH	
1602	0541	888	ō	30	4201	0953		LDL	STRT	
1603	0953	888	0	50	4200	0802		STL	START	
1604	0802	858	ā	25	4189	0641		LDA	-PR1	WRITE
1605	0641	888	٥	60	8901	0445	WRITE	STA	-OEX	
1606	0445	888	0	26	8902	8902		CLA	&OEX	
1607			-	-						
1608	BTAG	888	1	80	0002	0669	END	LIRJ	0002	
1609	0669	888	0	05	0871	0673		LDX	2F	
1610	0673	888	0	30	0675	8810		LDL		FIND*
1611	0675	888	0	67	AOOO	0871		HLT	RA	2F
1612	0871	888	0	20	0873	0875	2	BUF	1F	
1613	0875	888	0	05	0877	0679		LDX	2F	
1614	0679	888	0	30	0881	8900		LDL		OTPT*
1615	0881	858	0	25	BSAC	0687		LDA	ACCUM	
1616	0687	888	-	60	B6FB	0491		STA	ERROR	
1617	0491	888	0	25	0493	0495		LDA	3F	
1018	0495	888	0	60	4200	0502		STA	START	
1619	0502	888	0	25	BJAG	0641		LDA	PSUDX	WRITE
1620	0873	888		67	НННН	2000	1	HLT	HHHH	0000
1621	0493	838		30	0695	0402	3	LDL		PAGE*
1622	0695	888		30	0497	0402		LDL		PAGE*
1623	0497	888		05	0499	0501		LDX#	04000	00000
1624	0501	888	0	30	0503	0560		LDL		TERM
1625	0503	888	0		BOAH	0703		HLT	BOPI	
1626	0703	888		F2	0500	0500		TRW	OTAPI	
1627	0500	888		31	0903	0903		CLL		
1628	0903	888	0	25	87FH	0507		LDA	FTAG	
1629	0507	888	Q	82	0510	0710		TEQ	15	
1630	0710	888	0	F2	0600	0600		TRW	OTAP2	
1631	0600	888	Q	F2	0700	0700		TRW	0400	
1632	0700	888	0	62	0400	0517		TRD	-	8000
1633 1634	0517	888		F6 G2	8000	9000	1	TBU	BOOO OTAP1	5000
1635	0510	888	0	C7	0500	0527	•	TBT	18	
1636	0530	888			7800	0530 7801		TBU	Y0000	Y0001
1637	0877	888			0000	7905	2	JMP	0000	Y0105
1638	BJAH	888			0670	0402	PAT	LDL	0000	PAGE*
1639	0670	888			3073	3073		CLX		, Mar
1640	3073	855		_	3073	0476		ZAP		
1641	0476	388	-		0200	3002	•	STA	0200	
1642	3002	898			0223	0825		STX	0223	
1643	0825	888	-		0262	0664		STA	0262	
1644	0664	858			0267	0869		STX	0267	
1645	0869	888	-	60	0294	0496		STA	0294	
1646	0496	898		65	0299	0701		STX	0299	
1647	0701	898		60	0303	0505		STA	0303	
1648	0505	888			0308	0910		STX	0308	
	- 		_			-: • • • •			-	

- 84. OUTPUT GETS LOADER
 WRITE LOADING ROUTINE ON OUTPUT TAPE.
 NEITHER TAPE IS EVER REWOUND BY THE PROGRAM.
- X WE ARE NOW READY TO TAKE OFF GOING TOHEL.
- Z. ENDING OF ASSEMBLY.
- Z1. FIND* M. FIND M. IF UNDEFINED. HALT AND THE OPERATOR IS SUPPOSED TO FILL RA WITH THE RIGHT THING.
- Z2. ASSEMBLE TRANSFER
 ASSEMBLE HLT HHHH MLOC INTO LOCATION 0105
 WHICH WILL CAUSE THE LOADING TO STOP WITH
 THIS INSTRUCTION.
- Z3. CLEAN OUTPUT BUFFER.

 WRITE THE LAST BUFFER LOAD ON THE OUTPUT
 TAPE. PRINT THE END LINE AND THE ERROR
 INDICATION ON THIS LINE IS BLANK IF AND ONLY
 IF NO ERRORS OCCURRED DURING ASSEMBLY.
- Z4. EJECT PAPER SKIP THE PRINTER PAPER ABOUT 2 PAGES AHEAD.
- Z5. FINISH FLO FINISH PROCESSING THE LAST SECTION OF FLOW-CHART: IF ANY (SEE X6: EXCEPT COMPILE 04 INSTEAD OF 03 DP).
- Z6. HALT THE COMPUTER. PASS 2 IS FINISHED.
- Z7. FLOWCHARTING NO. IF NOT FLOWCHARTING ** **LOAD THE ASSEMBLED YES ** PROGRAM. IF FLOWCHARTING ** GO ON TOWPASS3.

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	1649	0910	888	60	0325	Q727		STA 0325	
	1650	0727	888 0		0330	0732		STX 0330	
	1651	0732		60	0334	0736		STA 0334	
	1652	0736	888		0339	0741		STX 0339	
	1653	0741	888		0365	3367		5TA 0365	
	1654	3367	388 0		0370	0772			
	1655	0772							
					0378	3380		STA 0378	
	1656	3380	888		0383	0785		STX 0383	
	1657 1658	0785	888		9999	3188		LIR! 9999	-PAT
	1659	3188 0592	888		0001	0592	-PAT	IIR1 0001	20006
			858		0794	0596		LDL# 00005	00000
	1660	0596	888	_	3399	3799		TEG 1F	
	1661	3799	888		0218	0620		STA 0218	
	1662	0620	888		8418	3025		LDA1 D0001	
	1663	3025	888		0827	8920		LDX	UNDG*
	1664	0827	988		0281	0683		STX 0281	
	1665	0683	888		0286	0688		STA 0286	
	1666	0688	888 0		8468	0693		LDA1 D0051	
	1667	0693	888 0		0895	3920		LOX	UNDG*
	1668	0895	888		0250	0652		STX 0250	
	1669	0652	888 0		0255	0637		STA 0255	
	1670	0657	888		8518	0662		LDA1 00101	
	1671	0662	856		0864	8920		LDX	UNDG#
	1672	0864	888 0		0241	0643		STX 0241	
	1673	0643	888		0246	0448		STA 0246	
	1674	0448	888 0	29	8568	0453		LDA1 00151	
	1675	0453	888 0		0455	8920		LDX	UNDG#
	1676	0455	888 0		0209	0811		STX 0209	
	1677	0811	888 0	60	0214	0416		STA 0214	
-	1678	0416	888 0	11	0201	3188		PRN 0201	-PAT
	1679	3189	888	67	3333	AODO	SPAT	HLT 3333	RA
	1680	3399	888 0	16	0016	4189	1	PFD 0016	-PRI
	1681	BAAG	888 0	25	8706	0970	NEW	LDA A	
	1682	0970	888 1	08	0000	0573		LIR3 0000	
	1683	0573	888 0	OB	9999	0976		LIR1 9999	
	1684	0976	888 0	05	0978	3780		LDX 2F	
	1685	3780	888 0	30	0982	8810		LDL 1F	FIND*
	1686	0978	888 0	60	BSFC	3182	2	STA ALOC	
	1687	3182	888 0		3184	4530		LDL	PSIGN
	1688	3184	888 0		0100	3388		SHR 0100	. • • • • • •
	1689	3388	888 0	30	84FG	0792		LDL MC	
	1690	0792	888 0		0000	0796		SML RX	
	1691	0796	888 0		BSFC	0900		LDA ALOC	
	1692	0800	888 0		0400	3607		SHL 0400	
	1693	3607	888 0		3009	AOCO		ADD	RA
	1694	3009	888 0		0000	BAG		STL 0000	PSUDX
	1695	0982	888		8706	0986	1	LDA A	
	1696	0986	888 0		0789	0789	~	CLX	
	1697	0789	888 0		1000	3202		STX1 STAB	
-	1698	3202	888 0		0200	3807		SHR 0200	
		-							

G SPECIAL SECRET OP NEW
G FIND A. IF UNDEFINED PUT IT AS OP IN
G SYMBOL TABLE WITH EQUIVALENT IN M AND C.
G IF DEFINED PUT CONTENTS OF M AND C INTO
G THE GADAAD PROGRAM IN THIS LOCATION.

1699	3807 388 0	20	3209	3011		BUF#	88000	88000		
1700	3011 88B 0	05	0413	0815		LDX	1F			
1701	0815 888 0	77	0815	0818		ATL				
1702	0818 888 0	25	000C	8712		LDA	RX	SRCH*		
1703	0413 888 0	30	3015	4530	1	LDL		PSIGN		
1704	3015 688 0	32	0100	0619		SHR	0100			
1705		30	84FG	0623		LDL	MC			
1706		90	0000	3027		SML	RX			
1707		54	2000	BACE			_	PSUDX		
1708		60	BJFB	0740	ERR1*	STA	TEMP		G	ERROR SUBROUTINE
1709		65	84FB	0544		STX	TEMP!		G	ACCUMULATES IN ERROR THE ERROR CODES
1710		OG	0001	0748		IIRJ	0001		G	FOR A LINE.
1711		06	0751	0751		CLX	00-0		Ğ	ERRIAL CODE IS RESALL INDICATING THE FIELD
1712		32	0400	0758		SHR	0400		G	EXIT IS IN RL.
1713		05	0760	8760		LDX	1F	ERR2#	-	
1714		20	86F8	0766	ERR2#	BUF	ERROR		G	ERR2+: CODE IS IN RA+ EXIT IS IN RX.
1715		37	0100	3170		SHL	0100		_	military and an array are array and array are
1716		60	86F8	0974		STA	ERROR			
1717		60	BSAC	000C		STA	ACCUM	RX		
1718		OG	9999	0764	1	IIRJ	9999	1177		
1719		25	83F8	0968	•	LDA	TEMP			
1720		05	84F8	0008		LDX	TEMPL	RL		
3			MAL O	3000		CUN	1 2 111 0	110		

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0000544044	** .	0055544044	0000010000	0000544044	0000544044
0000000044	•	0000544044	0000020000	0005544044	0055544044
0000000004	**	0005544044	0000030000	0000044044	0000044044
0000044044	1,0	0055544044	0000040000	0055544044	0005544044
0000000044		0005544044	0000050000	0005544044	0000544044
0005544044	•.	0055544044	000060000	0055544044	0005544044
000000000		0000544044	0000070000	0005544044	0055544044
0000004044	×	0005544044	000080000	0005544044	0000544044
0000000044	*	0055544044	0000090000	0055544044	0005544044
0000544044	až -	0055544044	0000100000	0000044044	0000544044
0000004044	*	0005544044	0000110000	0055544044	0005544044
0000544044		0000544044	0000120000	0055544044	0000544044
0005544044		0005544044	0000130000	0035544044	0005544044
0005544044		0000044044	0000140000	0055544044	0000544044
0000004044		0005544044	0000150000	0035544044	0005544044
0005544044		0005544044	0000160000	0055544044	0000544044
0055544044		0055544044	0000170000	0005544044	000000044
0000044044	-rija,	0000544044	0000180000	0055544044	0000044044
0000544044		0000044044	0000190000	0055544044	0055544044
0000544044	174	0000544044	0000200000	0055544644	0000004044
0055544044		0000044044	0000210000	0055544044	0000544044
0000044044	~	0005544044	0000220000	0055544044	0000544044
0000544044	2.4	0000004044	0000230000	0055544044	0005544044
0055544044	≪ 132	0000544044	0000240000	0055544044	0000044044
0000004044		0000044044	0000250000	0055544044	0000044044
0050544044		0000544044	0000260000	0055544044	0000044044
0000004044		0000044044	0000270000	0000544044	0005544044
0055544044		0005544044	0000280000	0055544044	0000044044
0000044044		0000544044	0000290000	0055544044	0000544044
0055544044		0005544044	0000300000	0005544044	000000004
0000004044		0000044044	0000310000	0055544044	0000544044
0055544044		0005544044	0000320000	0000544044	000004044
0005544044		0000544044	0000330000	0055544044	0005544044
0055544044		0005544044	0000340000	0055544044	0000004044
0005544044		0000544044	0000350000	0055544044	0000544044
0000544044		0005544044	0000360000	0000544044	0000044044
0005544044		0000544044	0000370000	0055544044	0055544044
0000544044		0000544044	0000380000	0055544044	000000044
0055544044		0055544044	0000390000	0055544044	0000004044
0055544044		0055544044	0000400000	0000544044	0005044044
0000544044		0005544044	0000410000	0000544044	000004044
0055544044		0055544044	0000420000	0055544044	0000044044
0000544044		0000544044	0000430000	0005544044	0005044044
0055544044		0055544044	0000440000	0005544044	0002044044
0005544044		0000044044	0000450000	0000544044	0000044044
0005544044		0005544044	0000460000	0055544044	0000044044
0055544044		0005544044	0000470000	0000544044	0077044044
0005544044		0055544044	0000480000	0900544044	0007044044
0055544044		0005544044	0000490000	0055544044	222200004
0055544044		0005544044			-

1722						21.0	A000	#200	•	SIMO - AN ISCT BOASDAM LOADING BAUTINE
	-					BLR	0000	4999	G	SIMPLE OBJECT PROGRAM LOADING ROUTINE
1723						BLA	Y0003	A0166 00	2 G	GOES INTO BAND 7800. THE ODD LOCATIONS.
1724						BLR	A0101	Y0105 00	4	
1725	0000	898 Q 67	0000	0000	0000	HLT	, , ,	*		
1726	7801	888 0 25	7803	7805	Y0001	LDA	15			
1727					.0001			2F		
	7805	88B 0 60	7902	7907	_	STA	Y0102	45		
1728	7907	888 0 G2	0500	7925	2	TRD	OTAPI			
1729	7925	888 0 C7	7931	7925		TBT		*		
1730	7931	888 0 87	7935	7937		TGR		3F		
1731	7935	898 0 67	7935	7907		HLT		28		
1732	7937	888 0 F6	8600	7901	3	TBU	8600	A0101		
1733	7803	898 0 67			ī		5044	38		
			7803	7937	40101	HLT	0000			
1734	7901	888 0 OB	0000	7905	A0101	LIRI	0000	A0102		
1735	7905	888 0 34	8601	7807	Y0105	LDL1	8601			
1736	7807	388 0 29	8603	7809		LDAI	8603			
1737	7809	888 0 37	0400	7817		SHL	0400			
1738	7817	888 0 90	OOOA	7821		SHL	RA			
1739	7821	888 0 35	7823	7825		ERS#	ООННН	H0000		
1740	7825	888 0 20		OOOA		BUF	0011111	RA		
			7827					117		
1741	7827	888 0 50	0000	7811		STL	0000			
1742	7811	888 0 0G	0004	7815		IIR1	0004			
1743	7815	888 0 30	7819	7829		LDL#	00020	00000		
1744	7829	888 0 82	7907	7905		TEQ	28	Y0105		
- 1745						END	BOP	, • • • •		
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Remington. Rand. Univa Division of sperry rand corporation PHILADELPHIA, PA.

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OO1 OO1 OO2 OO2 OO3	0000			FLO			2.	GADAAD ASSEMBLER PASS 2.
OO17 SEAN NEW OO00 OO99							4₩	MUNICIPAL I NO. 21
DOIS				SLR	0000	0399		
			HASB		00001	00000		CAUSES ASSEMBLY INTO BOUA - 899F AREA.
0020 0020 0070								INPUT BUFFER
0021 70000 8LR 4800 4999		er.						
DO22						4999		
OO23								
DO024						4035		
DO25								
DO26	0025							
10000 COR 0010 FORMARD LOCAL TABLE								
DO28	0027		-					
DO29								
0030						4015		
OO31								
0033								
0035								
ODG								
					***			EQU CONTROL
O O O O O O O O O O								
10000 COR 0005 PAIR ADDRESS CONTROL						0999		
October Octo						••••		
0041 0042 0042 0043 0044 0044 0044 0044 0044								
0042 0043 0044 0044 0044 0045 0046 0047 0048 0049 0049 0049 0049 0049 0047 0048 0049 0050 0050 0050 0051 0052 0052 0052 0053 0054 0055 0054 0055 0055 0054 0055 0056 0057 0056 0057 0058 0057 0058 0059 0059 0059 0059 0059 0059 0059						1999		
O043 O044 O045 O045 O046 O046 O047 O048 O048 O049 O049 O049 O049 O049 O049 O049 O050 O051 O051 O051 O052 O052 O053 COMTS O053 COMTS O053 COMTS O054 CHTSI EQU O050 O055 O055 O056 EXIT EQU B1FB O056 EXIT EQU B1FB O056 EXIT EQU B1FB O059 O059 TEMP EQU B4FB O060 TEMP ERROR EQU B4FB ERROR E								
O044 O045 O046 O046 O047 O048 O048 O049 O050 O050 O051 O052 O052 O052 O053 COMTS BLR 3400 O053 COMTS CMTS BLR 3400 O055 O054 CMTS1 EQU O050 CMTS1 EQU O050 O056 EXIT EQU B0FB O057 EXIT1 EQU B0FB O058 EXIT2 EQU B3FB O060 TEMP1 EQU B6FB O062 ERROR EQU B6FB ERRORS ON CURRENT LINE			_			6777		
O045 O046 O047 O047 C COR O001 O048 CH COR O001 O049 O050 O051 O052 O052 O052 O054 CHTS1 EQU 0500 CHTS1 EQU 3400 O055 CHTS1 EQU 3401 O056 EXIT EQU 80F6 O057 O058 EXIT EQU 80F6 O059 O059 TEMP1 EQU 83FB O060 TEMP1 EQU 84FB O060 TEMP1 EQU 86FB ERROR ERROR EQU 86FB O062 ERROR EQU 86FB O062 ERROR O001 TEMP2 EQU 86FB O060 O061 TEMP2 EQU 86FB O060								
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C					-			
0048 0049 0049 0050 0050 0051 0052 0053 0054 0055 0055 0055 0055 0056 0057 0056 0057 0057								
TAP1								
0050 0TAP1 EQU 0500 OUTPUT TAPE 0051 0TAP2 EQU 0600 CONTROL FOR FLOW PASS PSEUDOCODE 0052 0TAP3 EQU 0700 COMMENTS FOR FLOW PASS 0053 COMTS BLR 3400 3599 0054 CHTS1 EQU 3401 0055 STOPT EQU 8981 VARIOUS TEMP STORAGES 0057 EXIT1 EQU 81FB VARIOUS TEMP STORAGES 0058 EXIT2 EQU 82FB VARIOUS TEMP STORAGES 0059 EXIT1 EQU 83FB VARIOUS TEMP STORAGES 0059 TEMP EQU 83FB EQU 0060 TEMP1 EQU 84FB ERRORS ON CURRENT LINE 0062 ERROR EQU 86FB ERRORS ON CURRENT LINE								INPUT TAPE
0051 0TAP2 EQU 0600 CONTROL FOR FLOW PASS PSEUDGCODE 0052 0TAP3 EQU 0700 COMMENTS FOR FLOW PASS 0053 COMTS BLR 3400 3599 0054 CMTS1 EQU 3401 0055 STOPT EQU W9801 0056 EXIT EQU 80F6 0057 EXIT1 EQU 81FB 0059 EXIT2 EQU 83FB 0060 TEMP EQU 84FB 0061 TEMP2 EQU 85FB 0062 ERROR EQU 86FB ERRORS ON CURRENT LINE								
0052 0TAP3 EQU 0700 COMMENTS FOR FLOW PASS 0053 COMTS BLR 3400 3599 0054 CMTS1 EQU 3401 0055 STOPT EQU #9801 0056 EXIT EQU 80F8 VARIOUS TEMP STORAGES 0057 EXIT1 EQU 81F8 0058 EXIT2 EQU 82F8 0059 TEMP EQU 83F8 0060 TEMP1 EQU 84F8 0061 TEMP2 EQU 85F8 0062 ERROR EQU 86FB ERRORS ON CURRENT LINE								
COMTS BLR 3400 3599 STOPT EQU W9801 EXIT EQU BOFS VARIOUS TEMP STORAGES COMTS EXIT EQU B1FB COMTS BLR 3400 3599 VARIOUS TEMP STORAGES VARIOUS TEMP STORAGES COMTS EQU B1FB COMTS BLR 3400 3599 VARIOUS TEMP STORAGES COMTS EQU B1FB COMTS BLR 3400 3599 VARIOUS TEMP STORAGES COMTS EQU B1FB COMTS EQU								
CMTS1						3599		COUNTRAL S ACU L'ECH L'ADS
0055 STOPT EQU W9801 0056 EXIT EQU B0F6 VARIOUS TEMP STORAGES 0057 EXIT1 EQU B1FB 0058 EXIT2 EQU B2FB 0059 TEMP EQU B3FB 0060 TEMP1 EQU B4FB 0061 TEMP2 EQU B5FB 0062 ERROR EQU B6FB ERRORS ON CURRENT LINE								
0056 0057 EXIT EQU BOFS 0058 EXIT2 EQU B2FB 0059 TEMP EQU B3FB 0060 TEMP1 EQU B4FB 0061 TEMP2 EQU B5FB 0062 ERROR EQU B6FB ERRORS ON CURRENT LINE								
0057 0058 EXIT: EQU 81F8 0059 TEMP EQU 83F8 0060 TEMP: EQU 84F8 0061 TEMP2 EQU 85F8 0062 ERROR EQU 86F8 ERRORS ON CURRENT LINE								VARIABLE TEMP STARAGES
0058 0059 TEMP EQU B3FB 0060 TEMP1 EQU B4FB 0061 TEMP2 EQU B5FB 0062 ERROR EQU B6FB ERRORS ON CURRENT LINE								ANTOGO IEM DIGUES
0059 TEMP EQU B3FB 0060 TEMP1 EQU B4FB 0061 TEMP2 EQU B5FB 0062 ERROR EQU B6FB ERRORS ON CURRENT LINE								
TEMPI EQU 84FB O061 TEMP2 EQU 85FB O062 ERROR EQU 86FB ERRORS ON CURRENT LINE								
0061 TEMP2 EQU 85F8 0062 ERROR EQU 86F8 ERRORS ON CURRENT LINE								
0062 ERROR EQU 86FB ERRORS ON CURRENT LINE								
minimum and and an analysis an								EDDAGE ON CHOSENT I THE
DELV EMO BLED		•						ENUARS OF COUNTY FIRE
			UEFA	E. M.O.	5//8			

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UDEFX	EQU	88F8
SYMBL	EQU	89F8
INCRE	EQU	BOFC
PANIC	EQU	BIFC
MASK	EQU	B2FC
CORE	EQU	83FC
BLANK	EQU	84FC
ALOC	EQU	ASFC
MLOC	EQU	B6FC B7FC
CLOC	EQU	87FC
DEXIT	EQU	BAFC
SIGN	EQU	89FC
R	EQU	BOFG
LINE	EQU	BIFG
MCN	EQU	82FG
MCZ	EQU	BJFG
MC	EQU	84FG
OP	EQU	85FG
IR	EQU	86FG
TAPEI	EQU	B7FG
TCONT	EQU	BBFG
LTAPE	EQU	89FG
TEXI	EGU	BOFH
TEX	EQU	BIFH
AEX	EQU	82FH
ALEV	EQU	SSPH
MLEV	EGU	84FH
CLEV	EQU	SSFH
HTAG	EQU	BOFH
FTAG	EQU	87FH
RTAG	EQU	SEFH
OPTIM	EQU	89FH
SHR1	EQU	BOAC
SHR2	EQU	BIAC
LC	EQU	B2AC
LINEO	EQU	BJAC
FLAG	EQU	84AC
ACCUM	EQU	85AC
MUMI	EQU	BOAC
MUML	EQU	87AC
COMI	EQU	BBAC
KEY	EQU	BOAC
DK	EQU	BOAB
HS8	EQU	84AB
HSB1	EQU	BAB
BLA	EQU	BOAG
SLR	EQU	BIAG
COR	EQU	B2AG
PSUDX	EQU	BJAG
EQU	EQU	844G

NUM CONSTANT ZON CONSTANT CON CONSTANT

LINE COUNTER IN INPUT BUFFER CONTROL FOR TAPE BUFFER UNLOAD LAST TAPE COMMAND

LINE COUNTER ON OUTPUT PAGE LINE COUNTER IN OUTPUT BUFFER

ERRORS ON LAST ERRONEOUS LINE

CONTROL OPS STARTING LOCATIONS

			-								
0114							ННН	EQU	BSAG		
0115	*						FLO	EQU	86AG		
0116							END	EQU	B7AG		
0117							NEW	EQU	BBAG		
0118							CON	EQU	BOAH		
0119							NUM	EQU	BIAH		
0120							ZON	EQU	BZAH		
0121							PAT	EQU	BJAH		
0122							ALF	EQU	84AH		
0123							OFF	EQU	BSAH		
0124							TYP	EQU	BOAH		
0125							FUNNY	EQU	BSAH		
0126							BOP1	EQU	B9AH		
0127	8679	888	0	HH	HHHH	HHHH	R0010	CON	ннннн	ННННН	
0128	BJFH	888	-	00	0000	0000	ALEV	CON	00000	00000	
0129	84FH	888	a	00	0000	0000	MLEV	CON	00000	00000	
0130	85FH	858		00	0000	0000	CLEV	CON	00000	00000	
0131	BSFC	858	a	00	0000	0000	ALOC	CON	00000	00000	
0132	BOFC	888	_	00	0000	0000	MLOC	CON	00000	00000	
0133	B7FC	888		00	0000	0000	CLOC	CON	00000	00000	
0134	BTAC	888	ā	00	0000	0000	MUML	CON	00000	00000	
0135	BBAH	888	0	00	2000	0000	FUNNY	CON	00200	00000	BOOA
0136	84AB	898	0	22	2220	0000	HSB		22222	00000	
0137	BAAB		-					CON			WHAT
0138	STAD	888	0	00	0000	4000	HSB1	CON	00000	04000	HIGH-
A136								HHH	C		

BOOA - B99F PART OF CORE USUALLY UNAVAILABLE WHAT GADAAD CHOOSES FOR H HIGH-SPEED BANDS

		~~~		0004		-44	CUTTI		S.	SYMBOL TABLE SEARCH (SRCH*)
0139	8712	888 0 60	BIFB	AOOA	SRCH#	STA	EXITI		31	STUDOL INDEC OFFICE ACTION
0140	BOOA	88B 0 65	B2FB	BOLA		STX	EXITE			
0141	BOLA	888 0 50	83F8	802A		STL	TEMP			
0142	BO2A	888 0 26	8713	8713		CLA				
0143	8713	88B 0 75	0008	BOJA		SUB	RL			
0144	BOJA	888 0 77	BOJA	BO4A		ATL				
0145	BO4A	888 0 85	8714	805A		MUL#	10010	01001		
0146	805A	888 0 32	0600	306A		SHR	0600			
0147	BOGA	888 0 07	OHHH	807A		IIR	OHHH			
0148	807A	888 Q 35	0000	ASOB		ERS	RX		<b>S1</b> .	SCRAMBLE
0150	BOSA	888 0 30	83F8	8716		LDL	TEMP	& SR 2		
0152	8716	888 0 20	8717	GOOA	&SR2	BUF	. —	RA		
0153	8717	888 0 08	0000	8715		LIRI	0000	-SR2		
0154	6715	855 0 29	1000	809A	-SR2	LDA1			52.	SYMBOL: TABLE
0155	809A	888 0 82	8718	BIOA	O.c.	TEQ	3F			
						ADD	JF	-SRI		
0156	BIOA	358 0 70	8719	8720		CON	99999	99999		
0157	8719	388 0 99	9999	9999		IIRI	0023	77777	63.	TABLE : ZERO
0158	8721	888 0 OG	0023	ALLE	&SR1		0025	-SR2	950	1 Martin America
0159	BILA	888 0 70	8722	8715		ADD	2022			
0160	8722	888 0 99	9000	0000		CON	99900	00000	en	NOT FOUND.
0162	8720	886 0 54	1000	81FB	-SR1		STAB	EXITI	34.	NOT FOUND:
0163	8718	88B 0 29	2000	82F8	3	LDAI	BATS	EXIT2		
0166										
0167										
0168										
0169										
0170										
0171										
0172										
0173										
••••										

0174	8723	888 0 50	BOFB	812A	FAR8*	STL	EXIT		F.	FIND AND RESERVE BEST LOCATION (FARB*)	
0175	812A	888 1 09	8707	813A		LDX3	AH				
0176	813A	858 0 70	8724	814A		ADDA	00000	10000			
0177	B14A	888 0 60	BJFB	815A		STA	TEMP				
0179	815A	898 0 31	8725	8725		CLL					
0180	8725	888 0 50	BIFC	816A		STL	PANIC		F1.	EXAMINE H-FIELD	
0181	BIGA	358 5 02		8726			•	2F	F 4 0	EVWIATIAE GETTE	
0182	8726		0000		2	LIRO	0000				
		888 0 30	0000	8727	2	LDL	RX	3F			
0183	8727	888 0 50	8683	817A	3	STL	U0003				
0184	817A	888 0 25	8728	918A		LDA#	00000	00988			
0185	BIBA	888 0 82	8729	8730		TEQ		3F			
0186	8729	888 0 30		819A		LDL	HTAG				
0187	919A	888 0 82	8684	820A		TEQ	V0000				
0188	BZOA	888 0 05	0008	8727		LDX	RL	38			
0189	8730	888 5 25	8680	321A	3	LDA6	U0000				
0190	821A	888 5 82	8684	822A			V0000				
0191	822A	888 5 07	0001	8730		IIR6	0001	38			
0192	8680	888 0 00	1000	0488	U0000	CON	00100	00488			
0193	8681	888 0 00	1000	0388	U0001	CON	00100	00388			
0194	B682	888 0 00		0888	U0002	CON	00100	00888			
0195	8687	888 0 25	0008	823A	V0003			00000			
					¥0003	LDA	RL				
0196	823A	888 0 75	OOOA	824A		SUB	RA				
0197	824A	898 0 31	8731	8731		CLL					
0198	8731	888 0 82	8732	825A		TEQ	1F				
0199	825A	888 0 30	8733	826A		LDL#	00000	00400			
0200	826A	888 0 82	8734	827A		TEQ	3F				
0201	827A	888 1 OG		828A		IIRJ	0001				
0202	BZSA	888 0 30	8735	8736		LDL		ERR1*			
0203	8735	888 1 OG	9999	8684		IIRS	9999	V0000			
0204	8732	888 0 25	6000	829A	1	LDA	RL				
0205	829A	858 0 70	8737	8738		ADD		-NU			
0206	8737	858 0 00	7000	0000		CON	00700	00000			
0207	8739	888 0 70	83F8	BOOK	BNU	ADD	TEMP	4444			
0206	BJOA	888 0 60	83F8	8684	-,,,	STA	TEMP	V0000			
0209	8738	888 5 07	9998	831A	-NU	IIR6	9998	40000	<b>E</b> 3	HOR HAND I EVEL	
0210	BJIA	858 0 60	BIFC	832A	-140				720	USE HAND LEVEL	
0211						STA	PANIC				
0212	832A 8734	888 0 65	83FB	9740	•	STX	TEMP	2F			
0213	833A	888 0 25	8741	833A	3		00000	000HH			
0214		888 0 60	BIFC	834A		STA	PANIC				
	BJ4A	888 0 35	0000	835A		ERS	RX				
0215	835A	888 0 60	BJFB	8740	_	STA	TEMP	2F			
0216	8740	888 5 07	9999	8684	2	IIRo	9999	V0000			
0217	8684	88B 1 07	0000	8742	V0000	IIR2	0000	2F	F3.	ADJUST FOR PAIRS	
0218	8686	388 1 07	0000	8742	V0002	IIR2	0000	2F			
0518	8742	888 0 70	8743	8744	2	ADD		-F1			
0550	8743	888 0 99	9995	0000		CON	99999	50000		•	
0221	8744	898 0 26	8746	3746	-F1	CLA	3F				
0222	8745	888 5 07	0001	836A	&F1	IIR6	0001				
0223	836A	888 3 07	0000	9746	₩; <b>=</b>	IIRS	0000	3F			
~ <del>~ ~ ~</del>			0000	G ( 70		1143	0000	Jr.			

		-							
0224	<b>B746</b>	888 0 60	84FB	8747	3	STA	TEMP 1	-FARB	
0228	8685	888 1 07	0000	837A	V0001	IIR2	0000		F4. ROOM IN CORE
0229	BJ7A	888 0 70	8749	8750		ADD		-F8	
0230	8749	888 0 99	9995	0000		CON	99999	50000	
0231	8750	888 0 07	0001	8752	-F8	IIR	0001	1F	
0232	8751	888 0 07	0002	8752	&F8	IIR	0002	1F	
0233	8752	888 0 70	BJFC	938A	1	ADD	CORE		
0234	ABLE	888 0 05	OOOA	839A	•	LDX	RA		
0235	BJ9A	888 0 70	8753	8754		ADD	***	-F9	
0236	8753	888 0 99	9000	0000		CON	99900	00000	
0237	B754	888 0 65	83FC	B40A	-F9	STX	CORE		F5. ASSIGN CORE ADDR.
0238	840A	888 0 65	BBAB	841A		STX	R89		
0239	BALA	888 8 07	8999	842A		IIR9	9999		
0240	842A	888 0 60	8695	843A		STA	10001		
0241	843A	88B 8 07	0001	8756		IIR9	0001	FAREX	
0242	8755	888 0 25	8758	B44A	&F9		00000	00006	
0243	B44A	888 0 05	8759	8760	•••	LDX		ERR2#	
0244	8759	888 0 00	8761	3761		JMP			
0245	8761	888 5 07	0001	3686		IIR6	0001	V0002	
0246	8747	888 0 25	BJFB	845A	-FARB	LDA	TEMP	***************************************	F6. INITIALIZE
0247	845A	888 Q 37	0400	846A	1 7-11-1	SHL	0400		
0248	846A	888 0 70		947A		ADD	TEMPI		
0249	847A	888 0 77	847A	848A		ATL	15,11		
0250	848A	888 0 60	BHAC	349A		STA	FLAG		
0251							F0016		
0252	849A 8642	888 5 00 888 0 85	8641 8762	9641 8763	F0017	MUL	1F	2F	
					F0016	MUL		2F	
0253 0254	8641 8762	888 0 85 888 0 00	8762 0000	8763 00A5		CON	00000	000A5	
0255	8763	888 0 35	8764	850A	2	ERS#	0000H	H5000	
0256	850A	888 0 70	000A	8765	£	ADD	RA	3F	
0257	8643	888 0 35	8766	8765	F0018	ERS	1F	3F	
0258	8644	888 0 35	8766		F0019	ERS	15	3F	
0259	8766			8765		CON	00000	H0000	
0260	8765	888 0 60		0000 951A	3	STA	R87	HOGOG	
		888 0 31			3	CLL	V 0 /		
0261	851A			8767			00200		
0262	8767	888 0 25		852A		LDA		-F2	
0263	852A	888 0 60		8768		STA	D0000	-F.4	F7. TRY LEVEL
0264	8768	888 6 25		BSJA	-F2		00001		PIO INT LEVEL
0265	853A	888 5 00		8629	E0008		F0004	F0004	
0266	8630	888 6 35		8629	F0005		00000	P0004	
0267	8631	888 6 20		854A	F0006		00051		
0268	854A	888 6 20		855A			00101		
0269	855A	888 6 20		8770			D0151	1F	
0270	8770	38B 0 35		8629	1	ERS	HSB	F0004	
0271	8632	888 6 35		856A	F0007		00000		
0272	856A	888 0 05		857A		LDX	RA		
0273	857A	888 6 25		858A			00051		
0274	858A	888 6 35		859A		ERS7			
0275	859A	888 C 20		AOOB		BUF	RX		
0276	860A	888 0 05	000A	861A		LDX	RA		

	0277	861A	888	6 2	9 8518	862A		LDA7	00101				
	0278	862A	888			863A		ERS7					
	0279	863A	888	-		964A		SUF	RX				
	0280	864A	888			865A		LDX	RA				
	0281	865A	888			366A		LDA7					
	0282	866A	888	_		367A		ERS7	D0150				
	0283	867A	888	-		8770		SUF	RX	18			
	0284	8629	888			8772	F0004	TEQ	112	2F			
	0285	8771	888			868A		LDA	PANIC	~ .	F8.	. DRUM EXHAUSTED	
	0286	868A		_	2 8773	869A		TEQ	3F				
	0287	869A	888			870A		STL	PANIC				
	0268	870A		0 2		871A		LDA#	00000	00009			
	0289	871A		0 0		8760		LDX		ERR2+			
	0290	9775		o o		8773		JMP	3F				
	0291	8773	888			872A	3	IIR7	0001				
	0292	872A		5 7		9768	-	ADD6	F0020	-F2			
	0293	8645	888			0000	F0020	CON	99980	00000			
	0294	B646		9		0000	F0021	CON	99980	00000			
	0295	8647	888	_		0000	F0022	CON	99995	00000			
	0296	8648	888			0000	F0023	CON	99995	00000			
	0297	8769	888	_		873A	&F2	LDA	FLAG				
	0298	873A	888		4-	874A	-, -	TEQ	15				
	0299	874A	888		-	875A		STL	FLAG				
	0300	875A	886			8768		LIR7	0000	-F2			
	0301	8776		0 2		876A	1	LDAM	00000	00000			
	0302	876A		o o		8760	•	LDX		ERR2*			
	0303	8778		ÕÕ		8779		JHP		Service >			
	0304	8779	888			877A		IIR6	9998				
	0305	877A	888			8747		ADD		-FARB			
	0306	8780	888			0000		CON	99999	80000			
	0307	8748		0 2		8781	&FAR8	CLA					
	0308	8781	888			8756	,	STA	10001	FAREX			
	0309	8772	888			8633	2		F0008	V 144	F9.	. CALCULATE ADDRESS	S
	0310	8635	888			9782	F0010	LDA7		1F			•
	0311	8782	888			378A	1	ERS	H\$8				
	0312	876A	888			8784	-	TEG		2F			
-	0313	8783	886	_		8772		IIR7	0050	20			
	0314	8636	888			879A	F0011		00001	- Ay."			
	0315	879A	888			8782			00000	18			
	0316	8633	388			8784	F0008		00001	2F			
	0317	8634	888			BBOA	F0009		00001	-			
	0318	BBCA	888			9784			00000	2F			
	0319	8784	888			881A	2	LDX	RA				
	0320	BBIA	888			882A			66666	<b>66</b> 666			
	0321	882A	858	-		BBJA		TEG	IF				
	0322	ACBB	888			384A			99999	99999			
	0323	884A	888			385A		TEO	2 <b>F</b>			-	
	0324	985A	888			386A		ERS#		55555			
	0325	886A	888			897A		TEG	3F				
	0326	887A	888			8792		LDA		4F			

0327	B791	888 0 CH	HHHH	HHHH		CON CHE	ннинн ни	
0328	8790	888 0 25		ASEE	3	LDA# BHH		
0329	8888	888 0 30		8792		LDL	4F	
0330	8794	888 0 00	2000	0000		CON 002		
0331	8788	888 0 25	8795	889A	2	LDA# FHH		
0332	889A	898 0 30	B796	8792		LOL	4F	
0333	3796	888 0 00	4000	0000		CON 004		
0334	8786	888 0 25	8797	890A	1	LDA# GHH		
0335	890A	888 0 30	8798	8792		LDL	4F	
0336	8798	888 0 00	6000	0000		CON 006		
0337	8792	88B 0 50	BASB	891A	4	STL RB9		
0338	BOLA	888 0 30	0000	892A		LDL RX		
0339	892A	BBB 0 05	8799	9800		LDX	1F	
0340	8799	888 0 HH	HHHH	HHHH		CON HHH		
0341	8800	888 0 60	B2FC	893A	1	STA MAS		
0342	BPJA	888 0 35	0008	894A		ERS RL		
0343	894A	888 0 82	8801	8802		TEQ	1F	
0344	8801	888 8 07		895A			100	
0345	895A	888 0 25		896A		LDA MAS		
0346	<b>396A</b>	888 0 32	0100	8800			00 1B	
0347	8802	35B 5 00		8637	1	JMP6 FOO	12	FIO.RESERVE ADDRESS.
0348	8639	888 6 25		897A	F0014	LDA7 DOO		
0349	897A	888 0 35	BZFC	8637		ERS MAS	K F0012	
0350	8638	888 6 25	8417	8603	F0013	LDA7 DOO	100 IF	
0351	8640	888 6 25		8803	F0015	LDA7 DOO		
0352	8803	888 0 35		898A	1	ERS MAS		
0353	898A	588 6 60		9639		STA7 DOO	00 F0014	
0354	8637	888 6 60		<b>B99A</b>	F0012	STA7 DOO	01	
0355	899A	858 0 25		BOOF		LDA DOO	100	
0356	BOOF	888 0 35	-	BOIF		ERS DO2		
0357	801F	858 0 60		802F		STA DO2		
0358	802F	388 6 07		803F			00	
0359	803F	888 0 31	8804	8804		CLL		
0360	8804	888 0 82		3506		TEG	1F	fil.finish up
0361	8805	888 0 07	0199	8807		IIR O1		
0362	8806	888 0 75		8807	1	SUB	2F	
0363	808	888 0 00		0000		CON 000		
0364	8807	888 0 70		804F	2	ADD R89		
0365	804F	888 0 60	-	805F		STA_ 100		
0366	805F	888 6 07	-	306F		11R7 00		
0367	306F	888 0 70		8756		ADD RB9	FAREX	
0368	8756	888 0 06		8809	FAREX	CLX		
0369	8809	BBB 0 60	-	BO7F		STA 100		
0370	807F	888 0 60		808F		STA 100		
0371	BOSF	888 0 32	0400	80F8		SHR 04	OO EXIT	

	4. 4													
0372	8810	888	1 2		30 <b>9</b> F	FINO*	LDA3	A		Q.	MASTE	R ADDRES	S CALCULATO	FINO*1
0373	BOOF	888	0 6	5 87F8	810F		STX	DEFX						
0374	810F	888	0 5	0 88FB			STL	UDEFX						
0375	BILF	888	0 6	0 89F8			STA	SYMBL						
0376	812F	886					LDL#		88888					
0377	813F	888					TEQ	BLNK	20200	•		of TAIM		
0378	914F	888							n Bn D n	41.	WHAT	KIND		
0379	815F	888					LDL#		88888					
0380							TEQ	SELF						
	816F	988					ERS#		H0000					
0381	817F	888			818F		LDL#		80000					
0382	818F	888			819F		TEQ	ABS					±	
0383	819F	888			820F		LDA	SYMBL						
0384	820F	886			321F		ERS#		03333					
0385	821F	888			322F		MTX		•					
0386	822F	888	0 2	0 8819				OHHHH	00000					
0387	823F	888	0 3	5 89F8	824F		ERS	SYMBL	••••					
9860	924F	998					ERS#		04444					
0389	825F	888			8821		CLL	Q1 (11 11 11 1						
0390	8821		0 5		826F		STL	INCRE						
0391	826F	888			827F		TEQ	REG						
0392	827F	888			828F		LDA	SYMBL						
0393	326F	858	-						HOSOS					
0394	829F	888			829F			00000	H0000					
0395			-		930F		STA	R85						
	BJOF	888			331F		ERSA	00000	30000					
0396	831F	858			832F		MTX							
0397	832F	988			<b>333F</b>			ННННН	ОНННН					
0398	833F	858			834F		ERS	SYMBL						
0399	834F	858			835F			HHHHH	41444					
0400	835F	888			836F		LDL#	01000	06888					
0401	836F	888			837F		TEQ	LOCF						
0402	9 <b>37</b> F	888			838F		LDL#	01000	02888					
0403	838F	888			839F		TEO	LOCE						
0404	839F	888	0 3	1 8831	BHOF				05888					
0405	840F	688	0 8	2 8832	841F		TEQ	LOCL						
0406	841F	888	0 2	5 89FB	842F		LDA	SYMBL						
0407	842F	888			843F			H000Q	H0000					
0408	843F	888			844F			10000	C0000					
0409	BAUF	888			845F		TEO	PLUS	COGOG					
0410	845F	886			846F			00000	A0000					
0411	846F	888			847F				ACCOU					
0412	847F	888					TEO	MINUS						
0413	8838	856			8838		CLL	110000	60604					
0414	848F	888			848F			H0000	00000					
0415	849F				849F		TEO	ADERR	A					
0416	8837	888			3541	25 a 21 t m	LIR2	0004	LOOKI					
0417	8835				3842	MINUS	LIRS	0001	1F					
0418	8842	858			3842	PLUS	LIRS	0000	1F				•	
0419		888			8841	1	LIR2	0005	FOOK 1					
	8812	888			3843	SLNK	CLL		,	Q2.	BLANK	: ZERO		
0420	8843	888	U 2:	84FC	850F		LDA	BLANK						

•		—· .,							
0421	850F	888 1 02	0002	8844		LIR2	0002	FEX	
0422	8844	888 0 82	88F8	87F8	FEX	TEQ	UDEFX	DEFX	
0423	8814	898 0 25	BSFC	87F8	SELF	LDA	ALOC	DEFX	Q3. 'A' LOCATION
0428	8822	898 0 25	89F8	851F	REG	LDA	SYMBL	G ME V	Q4. CHANGE TO ROOOD.
0429	851F	888 0 35	B845	852F	KEG	ERS#	00000	онннн	GT. CHANGE TO ROOTE
0430	852F							Unnnn	
0431	853F		BOFC B9FB	853F		STA	INCRE		
0432	854F			954F		LDA	SYMBL	110000	
0433		888 0 35	8846	855F		ERSA		H0000	
0434	855F 8817	888 1 02	0000 B9FB	8847		LIR2	0000	LOOK	AS BRANCE INC 1000
0435	856F			856F	ABS	LDA	SYMBL		95. PROCESS ABS ADDR.
0436	8848	888 0 31	8848	8848		CLL	00000	40404	
		888 0 35	8849	857F		ERSA	02222	00000	
0437 0438	857F	888 0 82	8850	9840		TEQ		ADERR	
	8850	888 0 25	89F8	858F		LDA	SYMBL		
0439	858F	888 0 35	8851	859#		ERS#	ННННН	ОНННН	
0440	859F	888 0 75	000A	360F		SUB	RA		
0441	BOOF	888 0 82	8852	3840		TEQ	1F	ADERR	
0442	8840	88B 0 30	8853	8736	ADERR	LDL		ERRI*	96. ERROR
0443	8853	BBB 0 26	87F8	87F8		CLA	DEFX		
0444	8852	888 0 25	BOFB	861F	1	LDA	SYMBL		
0445	861F	888 0 35	8854	362F		ERSA	01111	00000	
0446	862F	888 0 70	000A	863F		ADD	RA		
0447	863F	888 0 70	AOOO	864F		ADD	RA		
0448	864F	888 0 32	0500	365F		SHR	0500		
0449	865F	888 0 20	89F8	366F		BUF	SYMBL		
0450	866F	888 0 35	8855	87F8		ERS		DEFX	
0451	8855	888 0 00	0000	HHHH		CON	00000	OHHHH	
0452	8828	888 3 25	8649	867F	LOCF	LDA5	10000		97. I(N) #ZERO
0453	867F	888 0 31	8856	8856		CLL			
0455	8856	888 1 02	0001	8844		LIR2	0001	FEX	
0456	8830	888 3 25	B659	868F	LOCB	LDA5	10000		Q8. J(N):ZERO
0457	868F	888 0 31	8857	3857		CLL			
0460	8857	888 0 82	8840	87F8		TEQ	ADERR	DEFX	
0461	8832	888 J 25	8649	869F	LOCL	LDA5	10000		Q9. I(N) IZERO
0462	B69F	888 0 31	8858	8858		CLL			
0463	8858	888 3 50		870F		STLS	10000		
0464	870F	88B 1 02	0003	871F		LIR2	0003		
0465	871F	888 0 82	BBFB	872F		TEQ	UDEFX		
0466	872F	888 3 60	8659	67F8		STA5	10000	DEFX	
0467	8841	888 0 25	89F8	8847	LOOKI	LDA	SYMBL	LOOK	G10.SRCH*
0468	3847	888 0 77	8847	873F	LOOK	ATL			
0469	873F	888 0 25	BBFB	374F		LDA	UDEFX		
0470	874F	858 0 05	8859	3712		LDX		SRCH*	
0471	8859	888 0 70		875F		ADD	INCRE		
0472	875F	888 0 35		87FB		ERS	_,,	DEFX	
0473	8860	888 0 00		НННН		CON	00000	ОНННН	
0474						•			
0477									
0481									

0497 8861 888 1 00 8619 8619 0EFN* JMP2 E0000 0. DEFINE ADD 0494 876F 888 0 25 8862 877F LDAW 00000 10000 0000 0494 876F 888 0 25 8862 877F LDAW 00000 10000 0000 0496 878F 888 0 32 0F00 879F SHE 0F00 0497 879F 888 0 32 0F00 879F ADD RX E0004 0498 880F 888 0 35 8863 8623 ERS E0004 0499 8863 888 0 00 0000 HHHH CON 00000 RL 0500 8622 888 3 60 8649 0008 E0001 STAS 10000 RL 0500 8623 888 0 60 8659 0008 E0002 STA BLANK RL D2. CALCULATE 0507 8622 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0500 8623 888 0 64 2000 885F B0003 STAS J0000 RL 0501 861F 888 3 25 8694 882F LDAS 10000 STAS ETAB RL 0510 881F 888 3 25 8694 882F LDAS 10000 STAS ETAB RL 0511 882F 888 0 50 885F 881F E0005 STL DEXIT DEXIT D3. STORE TWO. 0512 8648 888 0 32 0400 883F STAS ETAB STAS ETAB 0514 884F 888 0 64 2000 883F STAS ETAB STAS ETAB 0514 884F 888 0 64 2000 884F STAS ETAB 0514 884F 888 0 69 845F 885F STA TEMP1 LDAS TAB 0515 885F 888 0 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS STAS ETAB 0516 886F 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8865 888 0 00 8697 8697 JMP5 10003 0518 8665 888 0 00 8697 8697 JMP5 10003 0518 8665 888 0 00 8697 8697 JMP5 10003 0518 8665 888 0 00 8697 8697 JMP5 10003 0518 8665 888 0 00 8697 8697 JMP5 10003 0518 8665 888 0 00 8697 8697 JMP5 10003 0518 8665 888 0 00 8697 8697 JMPS 10003 0518 8665 888	ESS
0493 8619 888 0 05 000A 876F E0000 LDX RA 0494 876F 888 0 25 8862 977F LDA# 00000 10000 0495 877F 888 0 75 80FC 878F SUB INCRE 0496 878F 888 0 32 0600 879F SHR 0600 0497 879F 888 0 70 000C 880F ADD RX 0499 8863 888 0 00 0000 HHHH 0500 8620 888 3 60 8649 0008 E0001 STAT 10000 RL 0501 8621 888 0 60 84FC 0008 E0002 STA BLANK RL 0507 8622 888 3 60 8659 0008 E0002 STA BLANK RL 0508 8623 888 0 64 2000 0008 E0004 STAT ETAB 0509 8624 888 0 50 88FC 881F E0005 STL DEXIT 0510 881F 888 3 25 8694 882F 0511 882F 888 0 06 886F 886F STA TEMPT 0512 8864 888 0 32 0400 883F 0513 883F 888 0 64 2000 884F STAT ETAB 0514 884F 888 0 32 0400 883F 0515 885F 888 0 29 1000 886F STAT ETAB 0516 886F 888 3 00 8697 8697 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0494 876F 888 0 25 8862 977F	
0495 877F 888 0 75 80FC 878F SUB INCRE 0496 878F 888 0 32 0F00 879F SHR 0F00 0497 879F 888 0 70 000C 880F ADD RX 0499 880F 888 0 35 8863 8623 ERS E0004 0499 888 3 60 8649 0008 E0001 STA5 10000 RL 0500 8620 888 3 60 8649 0008 E0002 STA BLANK RL D2. CALCULATE 0507 8622 888 3 60 8659 0008 E0003 STA5 J0000 RL 0508 8623 888 0 64 2000 0008 E0003 STA5 J0000 RL 0509 8624 888 0 64 2000 0008 E0004 STA1 ETAB RL 0509 8624 888 0 50 88FC 881F E0005 STL DEXIT D3. STORE TWO. 0511 882F 888 0 32 0400 883F E0005 STL DEXIT D3. STORE TWO. 0512 8864 888 0 64 2000 884F STA1 ETAB 0514 884F 888 0 60 84FB 885F STA1 ETAB 0515 885F 888 0 60 84FB 885F STA1 ETAB 0516 886F 888 0 0 64 2000 886F STA1 ETAB 0516 886F 888 0 0 64 2000 886F STA1 ETAB 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0496	
0497 879F 888 0 70 000C 880F ADD RX 0498 880F 888 0 35 8863 8623 ERS E0004 0499 8863 888 0 00 0000 HHHH CON 00000 OHHHH 0500 8620 888 3 60 8649 0008 E0001 STAS 10000 RL 0501 8621 888 0 60 84FC 0008 E0002 STA BLANK RL D2. CALCULATE 0507 8622 888 3 60 8659 0008 E0003 STAS J0000 RL 0508 8623 888 0 64 2000 0008 E0003 STAS J0000 RL 0509 8624 888 0 50 88FC 881F E0005 STL DEXIT D3. STORE TWO. 0510 881F 888 3 25 8694 882F LDAS 10000 0511 882F 888 0 32 0400 883F SHR 0400 0513 883F 888 0 42 2000 884F STA TEMP1 0515 885F 888 0 60 84FB 885F STA TEMP1 0515 885F 888 0 29 1000 886F LDAS STAB 0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0498 880F 888 0 35 8863 8623	
0499 8863 888 0 00 0000 HHHH 0500 8620 888 3 60 8649 0008 E0001 STAS 10000 RL 0501 8621 888 0 60 84FC 0008 E0002 STA 8LANK RL 0507 8622 888 3 60 8659 0008 E0003 STAS J0000 RL 0508 8623 888 0 64 2000 0008 E0004 STAI ETAB RL 0509 8624 888 0 50 88FC 881F E0005 STL DEXIT D3. STORE TWO. 0510 881F 888 3 25 8694 882F LDAS 10000 0511 882F 888 0 06 8864 8864 CLX 0512 8864 888 0 32 0400 883F SHR 0400 0513 883F 888 0 64 2000 884F STAI ETAB 0514 884F 888 0 60 84F8 885F STAI ETAB 0515 885F 888 0 29 1000 886F LDAI STAB 0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0500 B620 B88 3 60 B649 0008 E0001 STAS 10000 RL 0501 B621 BB8 0 60 B4FC 0008 E0002 STA BLANK RL 0507 B622 B88 3 60 B659 0008 E0003 STAS J0000 RL 0508 B623 BB8 0 64 2000 0008 E0004 STA1 ETAB RL 0509 B624 BB8 0 50 B8FC B81F E0005 STL DEXIT D3. STORE TWO. 0510 B81F B88 3 25 B694 B82F LDAS 10000 0511 B82F B88 0 06 B864 B864 CLX 0512 B864 B88 0 32 0400 B83F SHR 0400 0513 B83F B88 0 64 2000 B84F STA1 ETAB 0514 B84F B88 0 60 B4FB B85F STA TEMP1 0515 B85F B88 0 29 1000 B86F LDA1 STAB 0516 B86F B88 3 00 B697 B697 JMP5 10003 0517 B697 B88 0 35 B865 B866 10003 ERS 1F	
0501 8621 888 0 60 84FC 0008 E0002 STA BLANK RL D2. CALCULATE 0507 8622 888 3 60 8659 0008 E0003 STA5 J0000 RL 0508 8623 888 0 64 2000 0008 E0004 STA1 ETAB RL 0512 8864 888 0 32 0400 883F E0005 STL DEXIT D3. STORE TWO. 0513 883F 888 0 64 2000 884F STA1 ETAB STA1 ETAB O514 884F 888 0 60 84FB 885F STA1 ETAB STA1 ETAB 0515 885F 888 0 29 1000 886F UDA1 STA8 UDA1 STA8 0516 886F 888 3 00 8697 8697 UDA1 STA8 UDA1 STA8 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0507 8622 888 3 60 8659 0008 E0003 STA5 J0000 RL 0508 8623 888 0 64 2000 0008 E0004 STA1 ETAB RL 0509 8624 888 0 50 88FC 881F E0005 STL DEXIT D3. STORE TWO. 0510 881F 888 3 25 8694 882F LDA5 10000 0511 882F 888 0 06 8864 8864 CLX 0512 8864 888 0 32 0400 883F SHR 0400 0513 883F 888 0 64 2000 884F STA1 ETAB 0514 884F 888 0 60 84FB 885F STA TEMP1 0515 885F 888 0 29 1000 886F LDA1 STA8 0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	ASE
0508 B623 B9B 0 64 2000 0008 E0004 STAI ETAB RL 0509 B624 BBB 0 50 B8FC B81F E0005 STL DEXIT D3. STORE TWO. 0510 B81F BBB 3 25 B694 B82F LDA5 10000 0511 B82F BBB 0 06 B864 B864 CLX 0512 B864 BBB 0 32 0400 B83F SHR 0400 0513 B83F BBB 0 64 2000 B84F STAI ETAB 0514 B84F BBB 0 60 B4FB B85F STA TEMP1 0515 B85F BBB 0 29 1000 B86F LDA1 STAB 0516 B86F BBB 3 00 B697 B697 JMP5 10003 0517 B697 BBB 0 35 B865 B866 10003 ERS 1F	
0509 8624 888 0 50 88FC 881F E0005 STL DEXIT D3. STORE TWO. 0510 881F 888 3 25 8694 882F LDA5 10000 0511 882F 888 0 06 8864 8864 CLX 0512 8864 888 0 32 0400 883F SHR 0400 0513 883F 888 0 64 2000 884F STA1 ETAB 0514 884F 888 0 60 84FB 885F STA TEMP1 0515 865F 888 0 29 1000 886F LDA1 STA8 0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0510 881F 888 3 25 8694 882F LDA5 10000 0511 882F 888 0 06 8864 8864 CLX 0512 8864 888 0 32 0400 883F SHR 0400 0513 883F 888 0 64 2000 884F STA1 ETAB 0514 884F 888 0 60 84F8 885F STA TEMP1 0515 885F 888 0 29 1000 886F LDA1 STA8 0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0511 B82F B8B 0 06 B864 B864 CLX 0512 B864 B8B 0 32 0400 B83F SHR 0400 0513 B83F B8B 0 64 2000 B84F STA1 ETAB 0514 B84F B8B 0 60 B4FB 885F STA TEMP1 0515 B85F B8B 0 29 1000 B86F LDA1 STAB 0516 B86F B8B 3 00 B697 B697 JMP5 10003 0517 B697 BBB 0 35 B865 B866 10003 ERS 1F	
0512 8864 888 0 32 0400 883F SHR 0400 0513 883F 888 0 64 2000 884F STA1 ETAB 0514 884F 888 0 60 84F8 885F STA TEMP1 0515 885F 888 0 29 1000 886F LDA1 STA8 0516 886F 888 J 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0514 B84F B8B 0 60 B4FB 885F STA TEMP1 0515 B85F B8B 0 29 1000 B86F LDA1 STAB 0516 B86F B8B 3 00 B697 B697 JMP5 10003 0517 B697 B8B 0 35 B865 B866 10003 ERS 1F	
0515 885F 888 0 29 1000 886F LDA1 STA8 0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0516 886F 888 3 00 8697 8697 JMP5 10003 0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0517 8697 888 0 35 8865 8866 10003 ERS 1F	
0518 8865 88B 0 OH HHHA HHHH CON OHHHH AHHHH	
0519 8698 888 0 20 8867 8866 10004 BUF 1F	
0520 8867 888 0 10 000C 0000 CON 10000 CO000	
0521 8866 88B 0 77 8866 887F 1 ATL	
0522 887F 88B 0 25 8868 8712 LDA SRCH*	
0523 8868 888 0 00 8869 8869 JMP	
0524 8869 888 J 25 8695 888F LDA5 10001	
0525 888F 888 0 06 8870 8870 CLX	
0526 8870 888 0 32 0400 889F SHR 0400	
0527 889F 888 0 64 2000 890F STAI ETAS	
0528 B90F BBB 0 25 B4FB BBFC LDA TEMP1 DEXIT	

(DEFN#)

0529	8871	888	0	50	BOFB	891F	AJST*	STL	EXIT		A.	AJST+ SUBROUTINE.
0536	891F		ă		AOOO	892F		LDL	RA		Al.	WHAT TYPE ADDRESS
0537	392F			25	8872	8873		LDA	110	8F	7.	
0538	5872	888		00	0000	0000		CONI	00000	00000		
0539	8873	888	0	70	0008	893F	8	ADD	RL	••••		
0540	893F		-	82	8874	894F		TEO	15			
0541	894F	888	0	25	BOFH	BOFB		LDA	OPTIM	EXIT		
0542	8874	888	0	60	84FB	895F	1	STA	TEMPI			
0543	895F	888	0	70	8875	396F		ADD#	00000	10000		
0544	896F	858	0	75	89FH	897F		SUB	OPTIM		A2.	FIGURE DRUM ROLL
0545	897F	388	0	60	BJFB	898F		STA	TEMP			
0546	898F	888	0	25	000B	899F		LDA	RL			
0547	899F	888	0	35	<b>B876</b>	8877		ERS#	00000	0H000		
0548	8877	888	0	30	BOAB	8878		LDL	H581			
0549	8878	888	0	82	8879	8880		TEQ	15			
0550	8880	888	0	30	BJFB	8881		LDL	TEMP			
0551	8881	888	0	85	8882	8883		MUL#	00000	0A005		
0552	8883	888	Q	30	0000	8884		LOL	RX		A3.	CHECK BAD TIMING.
0553	8884		0	25	8885	8886		LDA		2F		
0554	8865		0	99	OAOO	0000		CON	990A0	00000		
0555	8879		0	25	BJFB	8887	1	LDA	TEMP			
0556	3887		0	35	8888	3889		ERS#	00000	000CH		
0557	8889		0	77	8889	8890		ATL				
0558	8890		0	70	89FH	3891		ADD	OPTIM			
0559	8891	388	0	60	BUFB	8892		STA	TEMPI			
0560	5892		0	25	8893	3886		LDA		2F		
0561	8893		0	00	0000	0048		CON	00000	00048		
0562	8886		0	87	8894	8895	2	TGR	1#			
0563	8895		0	25	8896	8897		LDAM	00000	OOUDA		
0564	8897		0	05	8894	8760		LDX	1F	ERR2*		
0565	8894		0	25	84FB	898	1	LDA	TEMPI			
0566	5898	_	0	35	8899	BOFB		ERS		EXIT		
0567	8899	888	0	00	0000	OHHH		CON	00000	OOHHH		

- O. OUTPUT SUBROUTINE.
- 01. TRANSFER
- 02. BUFFER FULL
- 03. WRITE TAPE

THIS IS AN EDITING SUBROUTINE WHICH TAKES A TEN DIGIT WORD IN RA AND PRODUCES IN COMPUTER CODE THE CONVENTIONAL NOTATION FOR UNDIGITS: ABCFGH. THE ZONE WORD IS PUT INTO RA. NUMERIC IN RX AT EXIT.

0600	4200	888 0 26	4203	4203	START	CLA IF		E. EDIT INPUT CARD.
- 0601	4201	888 0 26	4203	4203	STRT	CLA IF		
0602	4203	888 0 60	BOFG	4207	1	STA R		
0603	4207	888 0 60	B9FC	4211		STA SIGN		
0604	4211	888 0 60	BOFB	4215		STA ERROR		
0605	4215	888 0 29	B001	4220		LDA1 BOOL		
0606		888 0 -05	AOOO	4224		LDX RA		
0607		888 0 75	BIFG	4029		SUB LINE		
0608		88B 0 30	4231	4233		LDL# 00000	00001	
0609	4233	688 0 82	4036	4236		TEO 1F		
0610		888 0 67	1111	4036		HLT 1111	1F	
0611		888 Q 65	BIFG	4040	1	STX LINE	-	
0618		888 0 29	8003	4045		LDA1 8003		E1. CHECK LINE NO.
0619		888 0 09	8009	4400		LDX1 8009		
0620		888 0 32	0500	4208		SHR 0500		
0621	4208	888 0 20	4210	4212		BUF# 88888	00000	
0622		898 0 60	0334	4436		STA 0334		•
0623		888 0 25	0000	4240		LDA RX		E2. TRANSFER
0624		858 0 20	4042	4044		BUF# 00008	80000	
0625		888 0 60	0218	4420		STA 0218		•
0626		888 0 29	8002	4225		LDA1 8002		
0627		888 0 09	8008	4230		LDX1 8008		
0628		888 0 32	0500	4038		SHR 0500		
0629		888 0 60	0339	4041		STA 0339		
0630		89B Q 65	0223	4425		STX 0223		
0631		55B 0 29	8007	4430		LDA1 8007		
0632		888 0 20	4232	4234		SUF# 00000	00008	
0633		888 0 09	8006	4039		FDXI BOOP	00000	
0634		888 0 60	0241	4043		STA 0241		
0635		888 0 65	0246	4048		STX 0246		
0636		888 0 29	8005	4403		LDA1 8005		
0637		888 0 20	4205	4407		SUF# 00000	80000	
0638		888 0 09	8004	4412		LDX1 5004	4040	
0639		BBB 0 60	0303	4405		STA 0303		
0640		888 0 65	0308	4410		STX 0308		
0641				*****			С	
0642	4410	888 1 02	0000	a938		LIR2 0000	-ST	EJ. SEPARATE OFF R. H.
0643		888 0 29	8003	8940	-ST	LDA1 8003	•	
0644		855 0 06	8941	8941	•	CLX		
0645		888 0 32	0500	3942		SHR 0500		
0646		BBB 1 60	8699	8943		STA2 30000		
0647		888 0 25	BOFG	8944		LDA R		
0648		888 0 32	0900	8945		SHR 0900		
0649		888 0 65	BOFG	8946		STX R		
0650		888 0 06	8947	8947		CLX		
0651		888 0 32	0700	8948		SHR 0700		•
0652		888 1 60	8707	3949		STA2 AH		
0653		888 0 29	8002	8950		LDA1 8002		
0654		888 0 35	8951	3952		ERS# HHHHH	00000	
				7 A T THE		Frame Hilbirit		

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0655	8952	BBB 1 60	8700	3953		STA2 30001		
0656	8953	888 1 20	8699	8954		BUF2 30000		
0657	3954	888 1 60	8706	3955		STA2 A		
0658	8955	888 0 29	B002	3956		LDA1 8002		
- 0659	8956	898 0 37	0400	3957		SHL 0400		
0660	3957	888 0 35	8958	8959		ERS# OOHHH	00000	
0661	8959	888 1 20	8707	3960		BUF2 AH		
0662	8960	888 1 60	B707	8961		STA2 AH		
0663	8961	888 0 OG	0002	3962		IIR1 0002		
0664	8962	888 1 07	0005	8963				
0665	8963	888 0 70				IIR2 0002	ET	
0666	3964		8964	8938		ADD	-ST	
	5764	388 0 99	9994	0000		CON 99999	40000	
0667 0668	8939		2001	Hann		HHH FOO!	1	
		888 0 29	B004	4244	AST	LDA1 BOO4		E4. MOVE COMMENTS
0669	4244	888 0 60	8669	4248		STA ROOOO		
0670	4248	898 0 29	8005	4603		LDA1 8005	45.5	
0671	4603	888 0 20	4605	4607		BUF# 80000	00000	
0672	4607	888 0 60	B670	4411		STA ROOOL		
0673	4411	888 0 29	8006	4016		LDA1 8006		
0674	4016	888 0 60	8671	4620		STA R0002		
0675	4620	858 0 29	8007	4625		LDA1 8007		
0676	4625	888 0 60	8672	4229		5TA R0003		
0677	4229	888 0 29	8008	4434		LDA1 8008		
0678	4434	888 0 60	8673	4238		STA R0004		
0679	4238	888 0 29	8009	4243		LDA1 BOO9		
0680	4243	888 0 60	8674	4047		STA ROOOS		
0681	4047	888 Q 29	8010	4202		LDA1 8010		
0682	4202	388 0 60	8675	4206		STA ROOD6		
0663	4206	858 0 29	8011	4611		LDA1 8011		
0684	4611	888 0 60	8676	4415		STA RODO7		
0685	4415	888 0 29	8012	4070		LDA1 8012		
0686	4070	888 0 60	8677	4424		STA ROOOS		
0687	4424	888 0 29	8013	4429		LDA1 BO13		
0688	4429	888 0 60	8678	4433		STA ROODS		
0689	4433	888 Q 25	8701	4037		LDA 30002		
0690	4037	888 0 37	0500	4245		SHL 0500		ES. CONSTRUCT CONSTANTS
0691	4245	888 0 20	8703	4049		BUF 30004		
0692	4049	888 0 60	B2FG	4053		STA HCN		
0693	4053	888 0 25	8704	4057		LDA 30005		
0694	4057	888 0 06	4610	4610		CLX		
0695	4610	888 0 32	0500	4018		SHR 0500		
0696	4018	888 0 20	8702	4222		BUF 30003		
0697	4222	888 0 60	BJFG	4026				
0698	4026	898 0 35	4028	4630			11111	
0699	4630	888 0 70	000A	4235			****	
0700	4235	888 0 70	OOOA	4440		ADD RA		
0701	4440	888 0 20	82FG			ADD RA		
0702	4444	888 0 60		4444		BUF MCN		
0703	4448	858 0 29	84FG	4448		STA MC		
0704	4253		8003	4253		LDA1 BOO3		
V/V4	7423	888 0 06	4406	4406		CLX		E6. EDIT OF CODE.

0705	4406	888 0 32	0700	4216		SHR 0700			
0706	4216	888 0 30	OOOA	4270		LDL RA			
0707	4270	85B 0 29	8002	4075		LDA1 8002			
0708	4075	858 0 32	0700	4435		SHR 0700			
0709	4435	888 0 37	0500	4443		SHL 0500			
0710	4443	888 0 20	8000	4247		BUF RL			
0711	4247	888 0 20	4249	4401		BUF# 88000	88000		•
0712	4401	898 0 60	BSFG	4055		STA OP			
0713	4055	888 0 65	86FG	4209		STX IR			
0714	4209	888 0 06	0014	4213		11R1 0014	25		
0715	4213	888 0 60	B7FG	4017	2	STA TAPEL	<del>-</del> :	£7.	INPUT BUFFER EMPTY
0716	4017	888 0 29	8000	4422		LDA1 BOOD		Ψ. τ	
0717	4422	888 0 31	4275	4275		CLL			
0718	4275	888 0 82	4228	4428		TEQ OF			
0719	4428	888 0 09	8001	4633		FDX1 9001			
0720	4633	888 0 30	0000	3919		LDL RX	TSUB*	E8.	SWAP BUFFERS
0721	8201	888 0 G2	0300	4218	50200	TRD ITAPL			
0722	4218	888 0 08	0201	4221		LIR1 0201			
0723	4221	38B 0 25	4223	4475		LDA TCONI	1F		
0724	4223	888 0 F6	8001	4453	TCON1	TBU 50000	-5		
0725	4454	888 0 67	8888	4453	45	HLT 8888	-5		
0726	4453	888 0 60	8200	4257	-5	STA 50199	3F		
0727	8402	888 0 G2	0300	4019	60200	TRD ITAP1			
0728	4019	898 0 08	0000	4622		LIR1 0000			
- 0729	4622	888 0 25	4624	4475		LDA TCON2	1F		
0730	4624	898 0 F6	8202	4653	TCONZ	TBU 60000	-6		
0731	4654	888 0 67	8888	4653	&6	HLT 8888	-6		
0732	4653	888 0 60	8401	4257	-6	STA 60199	3F		
0733	4257	888 0 31	4060	4060	3	CLL 3F	-		
0734	4475	858 0 60	BBFG	4629	1	STA TCONT			
0735	4629	888 0 OG	0000	4083		IIR1 0000			
0736	4083	888 0 60	B7FG	4228		STA TAPEI	6F		•
0737	8919	888 0 50	BOFH	4423	TSUB*	STL TEXI			TAPE SUBROUTINE. RL IS EXIT. RX IS TAPE INST.
0738	4423	888 0 65	BIFH	4027		STX TEX	1F		
0739	4027	888 0 C7	4432	4027	1	TBT	*		WAIT UNTIL PREV TAPE INSTRUCTION CLEARS.
0740	4432	BBB 0 26	4635	4635		CLA			
0741	4635	858 0 82	4438	4638		TEQ 2F			
0742	4638	858 0 25	89FG	4242		LDA LTAPE			
0743	4242	88B 0 67	2222	ADDG		HLT 2222	RA		HALT IF INDICATOR LIGHT ON
0744	4438	888 0 25	BBFG	4442	2	LDA TCONT			
0745	4442	888 0 31	4445	4445		CLL			IF PRECEDING WAS A READ. UNLOAD BUFFER
0746	4445	888 0 82	4060	ADDO		TEO SF	RA		
0747	4060	888 0 50	BBFG	4402	3	STL TCONT			PUT NEXT TAPE INSTRUCTION INTO LTAPE
0748	4402	888 0 25	BIFH	4606		LDA TEX			
0749	4606	888 0 35	4408	4260		ERS# HHHHH	H0000		
0750	4260	888 Q 20	4612	4214		BUF	8 <b>F</b>		
0751	4612	888 0 00	0000	4027		JMP 0000	18		
0752	4214	888 0 60	89FG	BOFH	8	STA LTAPE	TEXI		
0753	4228	888 0 30	B5FG	4632	6	LDL OP		£9.	OP SRCH*.
0754	4632	888 0 25	4634	4636		LDA# 88220	88658		
				न प्रकृति" क्या					

0755	4636	888	٥	82	4239	4439		TEQ	ONN	SWICH
0756	4056	388	1	08	0006	4409	ONSW	LIR3	0006	
0757	4409	888	Ö	05	4061	4413	5,1,5	LDX	15	
0758	4413	898	ū	25	4615	3712		LDA	•-	SRCH*
0759	4615	888	Ü	30	4219	8736		LDL		ERR 1 *
0760	4219	888	0	25	4623	4675		LDA#	67220	00000
0761	4675	898	0	64	2000	4061		STAI	ETAB	1F
0762	4061	888	0	30	4613	4065	1	LDL#	CCCCC	CCCCC
0763	4065	888	0	87	4418	000A		TGR		RA
0764	4418	838	0	60	85FG	4072		STA	OP	
0765	4072	888	0	30	4074	4226		LDL	PROCM	PROCA
0766								HHH	ŧ-	1

0767	4226	888 1 08	0000	4079	PROCA	LIRJ	0000		L.	PROCESS A ADDRESS.
0768	4079	888 0 50	B2FH	4283		STL	AEX			
0769	4283	888 0 25		4237		LDA	A			
0770	4237	888 0 30		4241		LDL#	00000	85859	L1.	CHECK BLANK A
0771	4241	898 0 82	4644	4094		TEQ	1F			
0772	4094	888 0 31		4447		CLL				
0773	4447	888 0 25		4601		LDA	BLANK			
0774	4601	858 0 82		4204		TEO	1F			
0775	4204	888 0 30		8736		LDL	1F	ERR1*		
0776	4644	888 0 05		4600	1	LDX	2F	<b>—</b> : , —	L2.	FINO* A.
0777	4600	888 0 30		8810	~	LDL		FIND*		
0778	4602	888 1 00		4010			L0000	1 4.44		
- 0779	4010	888 1 02		4012	L0000	LIR2	0002	L0002		
- 0760	4011	888 1 02		4012	L0001	LIRZ	0002	L0002		
0781	4012	888 0 30		8736	F0005	LDL	L0004	ERR1+		
0782	4013	888 0 25		4217	L0003	LDA	LINE	1F	13.	FARS+.DEFN+.
- 0783	4014	888 0 25		4217	L0004	LDA		1F		PARGTINGFIRT
- 0784	4015	89B 0 25		4217	L0005		LINE			
0785	4217	898 0 30		8723	1	LDA	LINE	1F FAR8+		
0786	4419	888 0 30		3861	•	LDL	28			
0787	4648	888 0 60		4404	2	STA	2F ALOC	DEFN*		
0758	4404	888 0 30			•		***			
0789				4608		LDL	MLOC		. 11	A D
	4608	888 0 82		4461		TEO	3F		<u>L</u> 4•	ADJUST A LEVEL.
0790	4461	888 0 30		4265		LDL	CLOC			
0791	4265	885 0 82		4068		TEQ	48	2F		
0792	4618	888 0 25		4272	4	LDA	CLEV	1F		
0793	4261	888 0 30		4465	3	LDL	CLOC			
0794	4465	888 0 25		4619		LDA		8F		
0795	4417	888 1 00		0000		CONI	00000	00000		
0796	4619	888 0 70	0008	4274	8	ADD	RL			
0797	4274	888 0 82		4618		TEQ		48		
0798	4227	888 0 25		4272		LDA	MLEV	1F		
0799	4272	888 0 60	BJFH	4426	1	STA	ALEV			
0800	4426	388 0 31	4279	4279		CLL			L5.	ZERO TO BLANK.
0801	4279	888 0 50	B4FC	82FH		STL	BLANK	AEX		
0804	4068	888 0 25	4470	4472	2	LDA		9 <b>F</b>		
0805	4470	888 1 00	0000	0000		CONI	00000	00000		
0806	4472	888 0 70		4272	8	ADD	ALOC	18		
		-		-				_		

0807	4074	888 0 -25	BOFG	4628	PROCM	LDA	IR		P.	PROCESSING OF INSTRUCTIONS
0808	4628	888 0 30	4080	4082		LUL#	00000	00800	Pl.	PROCESS A
0809	4082	888 0 82	4085	4285		TEO	1F			
0810	4285	888 0.30	4437	4089	0.00	LOL#	10000	0 <b>0H0</b> 0	P2.	CALCULATE M OPTIM
0811	4089	888 0-82	4085	4642		TEQ	15			
0812	4642	888 0 25	<b>63FH</b>	4046		LDA	ALEV			
0813	4046	888 Q 70	4098	4051		ADD#	00000	00001		
0814	4051	888 0 60	BJFH	4085		STA	ALEV	1F		
0815	4085	888 0 25	BSFG	4289	1	LDA	OP			
0819	4289	888 0 32	0200	4294		SHR	0200			
0817	4294	888 0 35	4246	4298		ERS#	90000	000HH		•
0818	4298	888 0 70	BJFH	4103		ADD	ALEV			
0819	4103	888 0 60	BOFH	4457		STA	OPTIM			
0820	4457	888 1 08	0002	4460		LIR3				
0821	4460	888 0 25	BOFS	4414		LDA	IR			
0822	4414	888 0 30	4416	4268		LDL#	10000	00400	P3.	LITERAL
0823	4268	888 0 82	4421	4621		TEO	SF			
0824	4621	888 0 37	0200	4626		SHL	0200			
0825	4626	888 0 31	4479	4479		CLL				
0826	4479	888 0 06	4282	4282		CLX				
0827	4282	858 0 70	4084	AOOO		ADD	3F	RA	P4.	FIGURE INDEXING
0828	4084	888 0 25	4000	4052	3	LDA	20000	4F		
0829	4000	888 0 00	0000	0000	90000	CON	00000	00000		
0830	4001	888 0 40	0000	0000	00001	CON	40000	00000		
0831	4002	888 0 00	0000	0001	00002	CON	00000	00001		
0832	4003	888 0 40	0000	0001	20003	CON	40000	00001		
0833	4004	888 0 00	0000	0002	00004	CON	00000	00002		
0834	4005	888 0 00	0000	0003	90005	CON	00000	00003		
0835	4006	888 0 00	0000	0005	00006	CON	00000	00005		
0836	4007	888 0 00	0000	0006	20007	CON	00000	00006		
0837	4008	888 0 00	0000	0007	8000	CON	00000	00007		
0838	4009	888 0 00	0000	0008	90009	CON	00000	00008		
0839	4052	898 0 60	B9FC	4256	4	STA	SIGN			
0840	4256	888 0 32	0100	4660		SHR	0100			
0841	4660	888 0 20	BSFG	4614		BUF	OP			
0842	4614	888 0 60	BSFG	4468		STA	OP	PRCM1		
0843	4421	888 0 25	BOFH	4125	5	LDA	OPTIM		P5.	CREATE CONSTANT
0844	4125	388 0 30	4427	8723		LDL	-	FARB+		
0845	4427	858 0 60	BOFC	4483		STA	MLOC			
0846	4483	888 0 30	4485	8871		LDL		AJST*		
0847	4485	898 0 60	B4FH	4441		STA	MLEV			
0848	4441	888 0 25	BOFC	4645		LDA	HLOC			
0849	4645	888 0 32	0800	4456		SHR	0800			
0850	4456	888 C 25	BOFG	4110		LDA	R			
0851	4110	888 0 35	4062	4064		ERSA		000H0		
0852	4064	888 0 32	0200	4069		SHR	0200			•
0853	4069	888 0 25	84FG	4073		LDA	MC			
0854	4073	888 0 30	4325	3900		LDL		OTPT*		
0855	4325	888 0 25	4679	4431			00000	88888		

0856	4431	888	Q	60	8710	4685		STA	C	PROCC		
0857	4468	856	0	05	4670	4672	PRCM1	LDX	2F		P6.	FIND+ M.
0858	4672	888	0	30	4474	8810		LDL		FIND*		
0859	4474	988	Q	31	4129	4129		CLL				
0860	4129	888	1	00	4020	4020		JMP2	M0000			
0861	4022	858	0	25	BSFG	4076	M0002	LDA	OP		P7.	FARB+. DEFN+.
0862	4076	888			4078	4280		ERS#	00020	00000		
0863	4280	888			4021	4683		TEQ	H0001			
0864	4683	888			BSFC	4670		LDA	ALOC	2F		
0865	4020	388			4122	8736	M0000	LDL	15	ERR1*		
0866	4023	888			4122	8736	M0003	LDL	15	ERR1#		
0867	4122	888			4670	4670	1	CLA	25			
0868	4025	888			89FH	4329	M0005	LDA	OPTIM	1F		
0869	4024			25	BOFH	4329	M0004	LDA	OPTIM	1F		
0870	4021			25	BOFH	4329	M0001	LDA	OPTIM	1F		
0871	4329	558			4631	8723	1	LDL		FARB*		
0872	4631	888			4670	8861	-	LDL	2#	DEFN*		
0873	4670	888			BOFC	4276	2	STA	MLOC		P8.	ADJUST M LEVEL
0874	4276	888			4278	3871	-	LDL	1164	AJST*		
0875	4278	888			B4FH	4685		STA	MLEV	PROCC		
0876	4685	388			BSFG	4489	PROCC	LDA	OP	111000		
0877	4489	888			4641	4643	1 11000	ERS#	00H00	00000		
0878	4643	888			4095	4498		ADD	001100	-C1		
0879	4095	888			7000	0000		CON	99700	00000		
0880	4499	888			BAFC	4303	acı	LDA	MLOC		PQ.	CALCULATE C OPTIM
0881	4303	888			4255	4657		LDL#	00000	00F00		
0882	4657	888			4310	4510		TEQ	00000	15		
0883	4310	838			4262	4510		LDA		iF		
0884	4262	888			0000	1000		CON	00000	01000		
0885	4510	658			4063	4063	1	CLX				
0886	4063			32	0200	4668	-	SHR	0200			
0887	4668	888		70	BSFG	4273		ADD	OP			
0888	4273	888			BSFG	4477		STA	OP	&C2		
0890	4498	888			4251	4503	-C1	LDL#		00000		
0891	4503	888			4656	4106		TEO		3F		
0892	4656	888			BSFG	4710		LDA	OP	-		
0893	4710	888			4462	4264		ERS		2F		
0894	4462	888			0000	НННН		CON	00000	ОНННН		
0895	4106	888			4058	4476	3	ADD		-C2		
0896	4058	898			1000	0000		CON	00100	00000		
0897	4477	888			BJFH	4081	&C2	LDL	ALEV	3F		
0898	4476	888			B4FH	4081	-c2	LDL	MLEV	3F		
0899	4081	858			BSFG	4135	3	LDA	OP			
0900	4135	888		35	4637	4689		ERS#		OOOHH		
0901	4689	858		70	0008	4264		ADD	RL	2F		
0902	4264			60	BOFH	4118	2	STA	OPTIM	61		
0903	4118	888		08	0004	4071	-	LIR3			Pin	.FIND* C.
0904	4071	888		05	4473	4525		LDX	2F			
0905	4525	888			4627	8810		LDL	·	FIND*		
- 0906	4627	888			4030	4030			C0000			
	1 4 60 1	W 147 W	•	~~	7050	407 <b>Q</b>		Q/11 M	30000			

				_							
	0907	4033	888	g <b>3</b> 0	4335	8736	C0003	LDL	1 <b>F</b>	ERR1*	P11.FARB+.DEFN+.
	0908	4030	886	30	4335	8736	C0000	LDL	1F	ERR1*	
	0909	4335		0 26	4473	4473	1	CLA	2F		
	0910	4032	888	0 25	BSFG	4086	C0002	LDA	OP		
	0911	4086	388	0 35	4088	4640		ERS#	00010	00000	
	0912	4640	888	0 31	4093	4093		CLL			
	0913	4093		0 82	4446	4646		TEQ	1F		
	0914	4646	888	0 25	B6FC	4473		LDA	MLOC	2F	
	0915	4446		0 07	0010	4449	1	IIR	0010		
	0916	4449		0 70	BBAH	4604		ADD	FUNNY		
	0917	4604		0 30	4306	4258		LOL#	00199	00000	
	0918	4258		0 87	4031	4561		TGR	C0001		
	0919	4661		0 60	BBAH	4665		STA	FUNNY		
	0920	4665		0 05	ACCO	4269		LDX	RA		
	0921	4269	888		4271	4724		ADD		-FNNY	
	0922	4271	888		9000	0000		CON	99900	00000	
	0923	4725	888		4077	4529	&FNNY	BUF		1F	
	0924	4077	888	-	BOOF	0000	•	CON	00800	F0000	
	0925	4724	858		BOOA	4277	-FNNY	IIR	BOOA	, •••	
-		4277	888		000C	4529		BUF	RX	1F	
	0927	4529	888		0400	4286	1	SHR	0400	3F	
	0928	4035	888		BOFH	4139	0005	LDA	OPTIM	1F	
	0929	4034	898		BOFH	4139	C0004	LDA	OPTIM	15	
	0930	4031	898		BOFH	4139	C0001	LDA	OPTIM	1F	•
4	0931	4139	888		4286	8723	1	LDL	3F	FARB*	
	0932	4286	888		4473	9861	3	LDL	2F	DEFN#	
	0933	4473	888		B7FC	4729	ž	STA	CLOC	UEF NT	P12.ADJUST C LEVEL
	0934	4729	858		4281	8971	•	LDL	CLOC	AJST*	LIETADOOS! C CEACH
	0935	4281	888		BSFH	4087		STA	CLEV	BUILD	
	0936	4087		0 25	B7FC	4091	BUILO	LDA	CLOC	20160	P13. SYNTHESIZE
	0937	4091	888		0400	4698	00.60	SHR	0400		L134 24414E217E
	0938	4698		0 25	BAFC	4252		LDA	MLOC		
	0939	4252		32	0600	4111		SHR	0600		
	0940	4111		0 25	BSFG	4115		LDA	OP		
	0941	4115		35	4617	4469		ERS#	HH000	00000	
	0942	4469	858		0000	4673		BUF	RX	00000	
	0943	4673	888		4673	4676		ATL	N.A.	51 D1	
	0944	4676		0 25	BSFC	4480	BIL01		ALOC	BILDI	P14.ASSEMBLE
	0945	4480		0 06	4133	4133	PICOI	LDA	ALUC		LI40 K 335 MBLE
	0946	4133		3 32	0500	4291		SHR	0500		
	0947	4291		25	BOFC	4295		LDA	SIGN		
	0948	4295		0 32	0200	4050		SHR	0200		
	0949	4050		0 25	BOFG						
	0950	4054		0 32	0300	4054		LDA	R		
	0951	4160		25	0000	4160		SHR	0300		
	0952	4464		30	4616	4464		LDA	RL	ATRT-	
	0953	4616		0 25		8900		LDL	TEMP !	OTPT+	nie Entr
	0954	4322			84F8	4322		LDA	TEMPI	1F	P15.EDIT
	0955	4674		0 05	4674	8920	1	LDX	TOUR !	UNDG*	
	0956			0 65	84FB	4680		STX	TEMP1		
	U720	4680	888	0 00	4333	4333		CLX			

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	0957	4333	988	0	32	0400	4090		SHR	0400			
	0958	4090	888	0	37	0200	4495		SHL	0200			
	0959	4495	856	0	32	0600	4254		SHR	0600			
•	0960	4254	888	0	65	0255	4107		STX	0255			
	0961	4107	898			0200	4662		SHL	0200			
	0962	4662			60	83F8	4066		STA	TEMP			
	0963	4066		0	25	85F8	4120		LDA	TEMP2			
	0964	4120			05	4522	8920		LDX	IEIN -	UNDG#		
	0965	4522			65	BSFB	4478		STX	TEMP2	QI-Q-G-		
	0966	4478			77	4478	4481		ATL	I C'LILL W			
	0967	4481			35	4533	4535		ERS#	ннннн	H0000		
	0968	4535			20	83F8	4339		SUF	TEMP	HOOO		
	0969	4339		_	60	0370	4722		STA	0370			
	0970	4722			25	0008	4126		LDA	RL			
	0971	4126			35	4678	4130		ERS#		AUJUU		
	0972	4130	888			0200	4735		-		ОНННН		
	0973	4735			60	0286			SHL	0200			
	0974	4288	888			BSFB	4288 4092		STA	0286			
	0975	4092							LDA	TEMP2	mth itāt i		
	0976	4096			35 37	4494	4096			00000	ОНННН		
	0977					0200	4451		SHL	0200	0000 %		
	0978	4451			20	4703	4455			88880	000B3		
	0979	4455			60	0281	4733		STA	0281			
		4733	888			85F8	4287		LDA	TEMP2			
	0980	4287	888			4539	4491		ERS#	ННННН	H0000		
	0981	4491	858			4491	4694		ATL				
	0982	4694	888			84FB	4148		LDA	TEMPI			
	0983	4148	888			4651	4651		CLX				
	0984	4651	888			0400	4458		SHR	0400			
	0985	4458	888			0200	4263		SHL	0200			
	0986	4263			32	0600	4172		SHR	0600			
	0987	4172			37	0200	4677		SHL	0200			
	0988	4677		_	20	0008	4681		SUF	RL			
	0989	4681			20	4183	4185		BUF#	00000	80088		
	0990	4185	898			0365	4067		STA	0365			
	0991	4067	888			000C	4471		LDA	RX			
	0992	4471	888			4123	4175			00008	80000		
	0993	4175	886	0	60	0250	4452		STA	0250	ALLX		
	0994	0205	888	0	00	0000	0000	0205	CON	00000	00000		
	0995	BJAG	888			4669	4669	PSUDX	CLX				
	0996	4669	888	0	63	4669	4372		ZAP				
	0997	4372	388	0	60	0250	4652		STA	0250			
	0998	4652	888			0255	4307		STX	0255			
	0999	4307	888	0	60	0281	4383		STA	0281			
	1000	4383	888	0	65	0286	4488		STX	0286			
	1001	4488	888	O	60	0365	4267		STA	0365			
	1002	4267	888	0	65	0370	4452		STX	0370	ALLX		
	1003	4452	388	0	31	4655	4655	ALLX	CLL			P16.FLOW	CHART
	1004	4655	888	0	25	87FH	4609		LDA	FTAG		-	
	1005	4609	888	0	82	4112	4312		TEO	FIN	FLOW .		
	1006	4112	888			8678	4266	FIN	LDA	R0009			
								-	-				

			-							
1007	4266	888	0	05	8677	4320		LDX	R0008	
1008	4320	356		60		4664		STA	0262	
1009	4664	888		65		4119		STX	0267	
1010	4119	358	ō	.25	8674	4323		LDA	R0005	
1011	4323	338				4127		LDX	R0004	
1015	4127	898			0294	4296		STA	0294	
1013	4296	898	0			4101		STX	0299	
1014	4101	888	0	25	8670	4105		LDA	R0001	
1015	4105	888	0	05	8669	4059		LDX	R0000	
1016	4059	886	0	60	0325	4327		STA	0325	
1017	4327	888	0	65	0330	4482		STX	0330	
1018	4482	888	0	25	8676	4486		LDA	R0007	
1019	4486	888	0	05	8675	4290		LDX	R0006	
1020	4290	888			0378	4330		STA	0378	
1021	4330	356	0	65	0383	4385		STX	0383	
1022	4365	888			8672	4739		LOA	R0003	
1023	4739	888			8671	4293		LDX	R0002	
1024	4293	888			0209	4311		STA	0209	
1025	4311	888			0214	4466		STX	0214	
1026	4466	888				4520		LDA	ERROR	
1027	4520	888			4523	4523		CLX		
1028	4523	888			4523	4527		ZUP		
1029	4527	898		37	0400	4284		SHL	0400	
1030	4284	888			BIFG	4688		SUF	LINE	
1031	4688	888		20	4490	4292		BUF#		80000
1032	4292	898	-	60	0200	4102		STA	0200	
1033	4102	888		25	BZAC	4506		LDA	LC	
1034	4506	888	-		4658	4511		ADD		-PR
1035 1036	4658	888	0		9999	9951	_	CON	99999	99951
1037	4511	688		75	4114	4467	-PR	SU8#	99999	99950
1038	4467 4671	888		60	BZAC	4671		STA	LC	
1039	4512	898	0	11	0201	4189		PRN	0201	-PRI
1040	4666	888		60	BZAC	4666	&PR	STA	LC	
1041	4190	888		11	0217	4189		PRN	0217	-PRI
1042	4189	898			3333	AOOO	&PR1	HLT	3333	RA
1043	4493	888			87FG	4493	-PRI	LDA	TAPEI	
1044	4695	356		70	4695	AOOO		ADD		RA
	7073	888	Ų	08	0000	4200		LIRI	0000	START

P17. PRINT

1045 1046 1047										ci.	CONTROL OPS. BRANCH TO OP RA CONTAINS A TRANSFER TO CONTROL OP:
1048											FROM STEP E9.
1049 1050											
1051											
1052											
1053											
1054											
1055											
1056									·		
1057			**								
1058											
1059											
1060 1062											
1063											
1064			••								
1065			-1								
1066	BSAG	888	0 25	8709	4720	HHH	LDA	HH			
1067	4720		0 60	BOFH	BACE		STA	HTAG	PSUDX		
1068	BOAG	888		4318	4170	FLO	LDAM	ННННН	HHHHH		·
1069	4170	888		1212	4712		HLT	1212			OPERATOR SHOULD CLEAR A IF FLOWCHARTING
1070	4712	888	0 60	87FH	BJAG		STA	FTAG	PSUDX		IS NOT DESIRED.
1071						***				c2.	PROCESS A
1072	BIAH	688		82FG	4572	NUM	LDA	MCN	1F		
1073 1074	82AH 84AH	888		BJFG	4572	ZON	LDA	MCZ	1F		
1075	4572	856		8708 84FG	4572 80AH	ALF 1	LDA	M MC	1F CON		
1076	BOAH	888		4128	4530	CON	LDL	AC.	PSIGN		
1077	4128	888		4730	4226	<b>C G</b>	LDL		PROCA		
1078	4730	888	0 30	84FG	4676		LDL	MC	BILDI		
1079	4530	888	0 50	BOFB	4484	PSIGN	STL	EXIT			
1080	4484	855		Befg	4138		LDA	IR			
1081	4138	888		4690	4492		LDL#	00000	00800		
1082	4492	888		4145	4345		TEQ	1F			
1083	4345	888		0200	4145		SHR	0200	1F		
1084	4145	888		B9FC	BOFB	1	STA	SIGN	EXIT		HORAGE ANATH TANKE
1085 1086	BOAG	898		0000	4319 4319	BLA	LIR4	0000	1F	43.	UPDATE AVAIL TABLE
1087	4319	888		0003 8711	4723	BLR 1	LIR4 LDA	0003 CH	1F		
1088	4723	898		4375	4727		LDI#	00000	00488		
1089	4727	888		4180	4380		TEQ	if	V4340		
1090	4380	888		4682	4684			00000	HOOD		
1091	4684	888		0400	4691		SHL	0400	2F		
1092	4180	898		0001	4691	1	IIR	0001	2F		
1093	4691	888		4691	4144	2	ATL				
1094	4144	888	0 20	4496	4348		BUF	BVARI			

-	1095	4348	888 0 60	4450	4302		STA BVAR	
	1096	4302	888 g 25	0008	4706		LDA RL	
	1097	4706	888 0 06	4259	4259		CLX	
	1098	4259	888 0 32	0400	4116		SHR 0400	
	1099	4116	88B 0 75	4518	4121		SUB# 00000	
	1100	4121	888 0 60	84F8	4575		STA TEMPI	
	1101	4575	888 0 05	4177	4179	1	LDX 2F	FP2ER
	1102	4179	88B 1 08	0002	4132	FP2ER	LIR3 0002	
	1103	4177	98B 0 60	BEFC	4131	2	STA MLOC	, , ,
	1104	4131	888 0 25	8710	4585		LDA C	
	1105	4585	888 0 30	4487	4389		LDL# 00000	88888
	1106	4389	888 0 82	4692	4142		TEQ	1F
	1107	4692	888 0 26	4545	4545		CLA 3F	•
	1108	4142	888 1 08	0004	4745	1	LIR3 0004	
	1109	4745	88B 0 05	4647	4132		LDX 2F	FPERR
	1110	4132	88B 0 30	4134	8810	FPERR	LDL PERR	FIND*
	1111	4647	888 0 75	B6FC	4545	2	SUB MLOC	3F
	1112	4545	888 0 60	BSFB	4649	3	STA TEMP2	
	1113	4649	89B 0 25	86FC	4153		LDA HLOC	7F
	1114	4153	888 0-30	000A	4507	7	LDL RA	
	1115	4507	888 0 85	4459	4686		MUL# 00000	CA005
	1116	4686	35B 0 60	BJFB	4140		STA TEMP	
	1117	4140	888 0 26	4693	4693		CLA	
	1118	4693	888 0 32	0400	4650		SHR 0400	
·,	1119	4650	888 Q 25	0000	4104		LDA RX	
	1120	4104	888 0 70	OOOA	4659		ADD RA	
	1121	4659	888 0 35	4711	4463		ERS# OOHHH	H0000
	1122	4463	888 0 20	4315	AOOO		BUF	RA
	1123	4315	80 0 886	0000	4370		LIR1 0000	
	1124	4370	898 0 26	4173	4173		CLA	
	1125	4173	888 0 75	BJFB	4328		SUB TEMP	
	1126	4328	888 0 37	0300	4334		SHL 0300	
	1127	4334	888 O 35	4136	4338		ERS# 00000	30000
	1128	4338	888 0 75	4340	000A		SUB	RA
	1129	4340	888 0 02	0000	4195		LIR 0000	
	1130	4195	888 0 25	83F8	4099		LDA TEMP	
	1131	4099	888 0 37	0600	4108		SHL 0600	
	1132	4108	888 0 35	4360	4162		ERS# 000HO	00000
	1133	4162	888 0 20	4314	4316		BUF 1F	
	1134						HHH	C
	1135	4316	888 0 77	4316	3965		ATL	OF
	1136	3965	888 2 00	8403	3403	0	JMP4 80000	
	1137	8403	388 1 25	8409	8966	B0000	LDA2 80006	2F
	1138	3406	888 1 25	8413	8966	80003	LDA2 80010	2F
	1139	8404	35B 0 00	0000	0000	80001	CON 00000	
	1140	8407	HH C BBB	HHHH	HHHH	50004	CON HHHHH	HHHHH
	1141	8966	888 2 05	5404	0008	2	LDX4 B0001	RL
	1142	4314	888 0 32	0000	8967	1	SHR 0000	75
	1143	8967	88B 0 60	BZFC	8968	7	STA MASK	
	1144	3968	888 2 30	8405	3969		LDL4 80002	-82

1145	8969	888 0 29	8418	0008	-82	LDA1	00001	RL	
1146	8405	888 0 20	B2FC	8971	80002	BUF	MASK	8F	
1147	8408	888 0 35	B2FC	8971	80005	ERS	MASK	8F	
1148	8409	88B Q 50	0000	0000	80006	CON	50000	00000	
1149	8410	888 0 40	0000	0000	80007	CON	40000	00000	
1150	8411	888 0 20	0000	0000	80008	CON	20000	00000	
1151	8412	888 0 10	0000	0000	80009	CON	10000	00000	
1152	8413	388 0 CH	НННН	HHHH	80010	CON	CHHHH	ННННН	
1153	8414	888 0 8H	НННН	НННН	B0011	CON	внинн	НННН	
1154	8415	888 0 FH	НННН	HHHH	80012	CON	FHHHH	ннннн	
1155	8416	898 0 GH	HHHH	HHHH	80013	CON	GHHHH	ННННН	
1156	8971	388 0 64	8418	8972	8		00001	, , , , , , ,	
1157	8972	88B 0 25	BSFB	8973	•	LDA	TEMP2		
1158	3973	898 0 75	84F8	8974		SUB	TEMPL		
1159	8974	888 0 70	8975	8976		ADD	15111	-81	
1160	8975	BBB 0 99	9999	9999		CON	99999	99999	
1161	8977	888 0 60	BSFB	4450	&B1	STA	TEMP2	BVAR	
1162	4496	888 0 06	0000	8978	BVARI	IIRL	0000	O TAN	
1163	8978	888 0 70	8979	8969	D AWIL T	ADD	0000	-82	
1164	8979	888 0 99	9800	0000		CON	99980	00000	
1105	8970	888 0 20	8980	AOOO	<b>\$</b> 82	BUF	,,,,,	RA	
1166	8980	888 0 08	0000	8981	-5-	LIRI	0000	13 <i>0</i> 5	
1167	8981	888 0 25	BZFC	8982		LDA	MASK		
1168	8982	888 0 30	0000	8983		LDL	RX		
1169	8983	858 0 32	0100	3984		SHR	0100		
1170	8984	888 0 82	8985	8967		TEO	0100	78	
1171	8985	888 1 07	0001	5986		IIR2	0001	1,00	
1172	8986	888 0 30	8967	3965		LDL	78	08	
1173	4.00		0.447	2703		ННН	1		
1174	84AG	888 0 05	4718	4179	EQU	LDX	2F	FPZER	
1175	4718	888 0 60	BAFC	8976	2	STA	HLOC	-B1	
1176	4134	898 0 30	BJAG	8736	PERR	LDL	PSUDX	ERR1*	
1177	BZAG	898 0 25	BJFC	4570	COR	LDA	CORE		C4. RESERVE CORE
1178	4570	888 0 70	4772	4775		ADD#	00000	10000	
1179	4775	988 0 06	4528	4528		CLX			
1180	4528	888 Q 32	0400	4785		SHR	0400		
1181	4785	888 Q 20	4687	4589		BUF#	00000	08000	
1182	4589	888 0 60	BOFC	4143		STA	MLOC	0-0-0	
1183	4143	888 0 05	4395	4179		LDX	2F	FPZER	
1184	4395	888 0 37	0400	4502	2	SHL	0400		
1185	4502	388 0 70	BJFC	4707		ADD	CORE		
1186	4707	888 0 05	AOOO	4161		LOX	RA		
1187	4161	888 0 70	4663	4516		ADD	•••	-83	
1188	4663	888 0 99	9000	0000		CON	99900	00000	
1189	4517	888 0 25	4169	4321	&B3	LDA#	00000	00006	
1190	4321	888 0 05	4134	8760	—	LOX	PERR	ERR2+	
1191	4516	888 0 65	BJFC	8976	-83	STX	CORE	-81	
1192	8976	888 1 08	0000	4373	-81	LIRS		• •	C3. DEFINE ADDRESS
1193	4373	888 0 05	4134	4336		LOX	PERR		
1194	4336	898 0 30	4538	9810	-	LDL	***	FIND*	•

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1195	4538	888	1	00	8688	8688		JMP2	X0000		
1196	8668	888	0	25	BOFC	4097	X0000	LDA	HLOC	1F	
1197	8689	888	0	25	BEFC	4097	X0001	LDA	MLOC	1F	
1198	8690	888	O	00	BJAG	BACE	X0002	JMP	PSUDX	Δ.	
1199									. 50		
1200	8691	888	0	25	86FC	4097	E000X	LDA	MLOC	1F	
1501	8692	888	0	25	86FC	4097	X0004	LDA	MLOC	1F	
1202	8693	858	0	00	4134	4134	X0005	JMP	PERR	• *	
1203	4097	888	Q	30	BJAG	8861	1	LDL	PSUDX	DEFN*	
1204								ннн	1.3001	Del 144	
1205	4239	888	0	05	4056	0458	ONN	LDX	ONSW	1F	
1206	BSAH	888			0470	0458	OFF	LDX	OFFSW	1F	C6. ON OFF
1207	0458			65	BOFH	0462	1	STX	OPTIM	. <b>4</b> F	CO. ON OFF
1208	0462			05	0464	4179	•	LDX	OPTAN	FP2ER	
1209	0464	888			0466	0468		LDL	TYPE	Prach	
1210	0468	888			0471	BACE		TEQ	11114	PSUDX	
1211	0471	888			BOFH	0475		LDL	OPTIM	F 300 A	
1212	0475	888		50	4439	BAG		STL	SWICH	PSUDX	
1213	BOAH	888			0008	0568	TYP	HLT	RL	FOUN	
1214	0568	888	ŏ	50	0466	0668		STL	TYPE		
1215	0668	888			0241	BACE		STL	0241	PSUDX	
1216	0470	888			0473	0473	OFFSW	CLL	04.7		
1217	0473	688			BTFH	0477	<b>.</b> , <b>.</b>	LDA	FTAG		C7 ACCOMOLES OF
1218	0477	888			0480	4189		TEQ	FIAG	-PR1	C7. ASSEMBLER OFF
1219	0480	888			0482	0484		LDA	16		
1220	0484	888			0486	0488		LDX	2F		
1221	0488	858			0365	0567		STA	0365		
1222	0567	355			0370	0572		STX	0370		
1223	0572	888			0575	0575		CLX	0370		
1224	0575	888			0575	0578		ZAP			
1225	0578	858			0250	0452		STA	0250		
1226	0452			65	0255	0457		STX	0255		
1227	0457	888			0281	0483		STA	0255		
1228	0483	888			0286	4112		STX	0286	FIN	
1229	0482	888			8866	6888	1		*** 0	FF **	
1230	0486	858			2021	1022	2	ZON	*** 0	FF **	
1231			~				•	HHH	### U	PP **	
								HULL	п		

IN CONSIDERATION OF THE RECEIPT OF THIS DOCUMENT, THE RECIPIENT AGREES NOT TREPRODUCE, COPY, USE OR TRANSMIT THIS DOCUMENT AND/OR THE INFORMATION THEREIN CONTAINE IN WHOLE OR IN PART, OR TO SUFFER SUCH ACTION BY OTHERS, FOR ANY PURPOSE, EXCEPT WITH THE WRITTEN PERMISSION OF SPERRY RAND CORPORATION, AND FURTHER AGREES TO SURRENDE SAME TO SPERRY RAND CORPORATION, UPON DEMAND

1232	4332	888	0	77	4332	4536	CMPL*	ATL		
1233	4536	888	0	25	BEAC	4540		LDA	IMUM	
1234	4540	888	0	60	67AC	4344		STA	MUML	1F
1235	4736	888	0	25	BEAC	4344	COMP*	LDA	MUMI	1F
1236	4344	888	0	70	4696	4299	1	ADD#	00000	20000
1237	4299	888	Q	60	BOAC	4353		STA	MUMI	2F
1238	4353	988		70	4305	000A	2	ADD		RA
1239	4305	888		50	5199	000C		STL	<b>#9999</b>	RX
1240	4740	688		50	4342	4544	COMT*	STL	-com	
1241	4544	888	-	25	BBAC	4548		LDA	COMI	
1242	4548	888	0	60	BZAB	4702		STA	R84	
1243	4702	888	0	25	4304	4156		LDA		8F
1244	4304	888	0	00	8678	3669		JMP	R0009	R0000
1245	4156	988		88	3400	4573	8	TCD4	COMTS	
1246	4573			07	0010	4377		IIR4	0010	
1247	4377	888		60	BBAC	4331		STA	COMI	
1248	4331	858	_	70	4583	4342		ADD		-COM
1249	4583	888		99	9800	0000		CON	99980	00000
1250	4343	988		60	BBAC	4297	&COM	STA	COMI	
1251	4297	888		05	4699	4301		LDX	2F	
1252	4301	888		30	4553	8919		LDL		TSUB*
1253	4553	888		Ç6	3400	4699		TBL	COMTS	2F
1254	4699	898		H2	0700	4342	2	TWR	OTAP3	-COM
1255	4505	888		25	8669	4109	BDK	LDA	R0000	
1256	4109	888	0	35	4361	4313		ERSA	00000	HHHHH
1257	4313	888	0	60	8669	4667		STA	R0000	
1258	4667	888	0	25	8670	4521		LDA	R0001	
1259	4521	888		35	4773	4326		ERS#	00000	HHHHH
1260	4326	888		20	4728	4580		SUF#	88888	00000
1261	4580	888		60	8670	0008		STA	R0001	RL
1262	4312			08	0007	4515	FLOW	LIRS	0007	
1263	4515	888		25	8670	4519		LDA	R0001	
1264	4519	888		06	4124	4124		CLX		
1265	4124	888			BBFH	4178		STX	RTAG	
1266	4178	888		32	0500	4186		SHR	0500	
1267	4186	888			4186	4789		ATL		
1268	4789	898			8669	4543		LDA	R0000	
1269	4543	888			4595	4497			ННННН	00000
1270	4497	888			0008	4501		BUF	RL	
1271	4501	888			BOAB	4705		STA	DK	
1272	4705	888			4157	4309		LDL#	00000	88888
1273	4309	888	-	- 10-6	4362	4562		TEQ	\$5	
1274	4562	888			4514	4716		LDL#	03000	87888
1275	4716	888			4719	4369		TEQ		1F
1276	4719	888			BSFH	4324		STA	RTAG	
1277	4324	855			4362	4505		LDL	\$5	BDK
1278	4369	888			4721	4524	1	LDL#	01000	87888
1279	4524	888	-		4577	4777		TEG		1F
1260	4577	888	0	30	4112	4505		LDL	FIN	BDK

X. EXAMINE REMARKS FIELD
CMPL* PUTS INSTRUCTION IN RA INTO MUM CODE
MUML IS THE LOCATION OF LAST MUM INSTR.
COMP* PUTS WORD IN RL INTO MUM CODE
BUT IT ISNT REALLY AN INSTRUCTION
EXIT IS IN RX. IN BOTH CASES.

MOVE ALL REMARKS TO THE COMMENTS TAPE FOR USE BY PASS 3.

BOK: BLANK OUT COLS 32-35 AND GO TO RL.

X1. WHAT DK FIELD

1281	4777	888 0	30	4379	4531	1	LDL#	01211	83649		
1282	4531	888 0	82	4534	4-34		TEQ	\$6			
1283	4734	888 0	30	4386	4738		LDL	03112	83123		
1284	4738	888 0	82	4141	4341		TEO		1F		
1285	4141	888 0	05	4534	4736		LUX	<b>S6</b>	COMP*		
1286	4341	858 0	35	4743	4795	1	ERS#	HOHMH	HOHHH		
1287	4795	888 0	30	4697	4149		LDL#	00100	BOABB		
1288	4149		82	4152	4352		TEQ	54			
1289	4352		35	4504	4356		ERSA	HHHHH	HHOHH		
1290	4356	856 0		4308	4560			00010	800AB		
1291	4560	888 0		4513	4713		TEQ	1F			
1292	4713		35	4715	4117			нннн	HHHOH		
1293	4117	-	30	4569	4171			00001	8000A		
1294	4171	88B 0		4174	4374		TEQ		\$3		
1295	4174		25	BOAB	4378		LDA	DK			
1296	4378		35	4780	4532		ERSA		OOHHO		
1297	4532		37	0300	4188	_	SHL	0300	2F		
1298	4513		25	BOAR	4317	1	LDA	DK			
1299	4317	888 0		4769	4371		ERS#	_ ,	00400		
1300	4371	888 0		0200	4188	_	SHL	0200	2F		
1301	4188		70	AOOO	4193	2	ADD	RA			
1302	4193	888 0		4146	4748		LDL	N			
1303	4748	888 0		4701	4151		TGR	S2			
1304	4151		30	4362	a736		LDL	55	ERR1*		
1305	4362	888 0		0000	4367	<b>\$5</b>	LIRI	0000	-NO#	X2. SCAN FOR I	*
1306	4367		29	8670	4574	-NO#		R0001			
1307	4574		35	4526	4578			88888	88888		
1308	4578	888 0		000A	4783		SUB	RA			
	4783	888 0	77	4783	4586		ATL				
1309											
1310	4586	888 0	29	8670	4541		LDAI	R0001			
1310	4586	888 0	29 35	8670 4393	4541 4346		LDA1 ERS#	R0001 66666	<b>6666</b> 6		
1311 1312	4586 4541 4346	888 0 888 0	29 35 C1	8670 4393 4346	4541 4346 4349		LDA1 ERS# MTX	66666			
1310 1311 1312 1313	4586 4541 4346 4349	858 0 858 0 858 0	29 35 C1 70	8670 4393 4346 4351	4541 4346 4349 4704		LDA1 ERS# MTX ADD#	33333	66666 33333		
1310 1311 1312 1313 1314	4586 4541 4346 4349 4704	888 0 888 0 888 0 888 0	29 35 C1 70 35	8670 4393 4346 4351 0008	4541 4346 4349 4704 4508		LDA1 ERS# MTX ADD# ERS	66666			
1310 1311 1312 1313 1314 1315	4586 4541 4346 4349 4704 4506	355 0 855 0 855 0 855 0 855 0	29 35 C1 70 35 77	8670 4393 4346 4351 0008 4508	4541 4346 4349 4704 4508 4561		LDA1 ERS# MTX ADD# ERS ATL	66666 33333 RL			
1310 1311 1312 1313 1314 1315 1316	4586 4541 4346 4349 4704 4508 4561	255 0 856 0 856 0 856 0 856 0 856 0	29 35 C1 70 35 77 29	8670 4393 4346 4351 0008 4508 8669	4541 4346 4349 4704 4508 4561 4166		LDA1 ERS# MTX ADD# ERS ATL LDA1	66666 33333 RL R0000	33333		
1310 1311 1312 1313 1314 1315 1316 1317	4541 4346 4349 4704 4508 4561 4166	355 0 855 0 856 0 856 0 856 0 856 0	29 35 C1 70 35 77 29 70	8670 4393 4346 4351 0008 4508 8669 4568	4541 4346 4349 4704 4508 4561 4166 4571		LDA1 ERS# MTX ADD# ERS ATL LDA1 ADD#	66666 33333 RL R0000 33333			
1310 1311 1312 1313 1314 1315 1316 1317 1318	4586 4541 4346 4349 4704 4508 4561 4166 4571	388 0 888 0 888 0 888 0 888 0 888 0 888 0	29 35 C1 70 35 77 29 70 35	8670 4393 4346 4351 0008 4508 8669 4568 0008	4541 4346 4349 4704 4508 4561 4166 4571 4726		LDA1 ERS# MTX ADD# ERS ATL LDA1 ADD# ERS	66666 33333 RL R0000	33333		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319	4586 4541 4346 4349 4704 4561 4166 4571 4726	388 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0	29 35 C1 70 35 77 29 70 35 31	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579		LDA1 ERS# MTX ADD# ERS ATL LDD# ERS CLL	66666 33333 RL R0000 33333	33333 33333		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320	4586 4541 4346 4349 4708 4561 4561 4571 4726 4579	388 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0	29 35 C1 70 35 77 29 70 35 31 82	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579 4732	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579 4182		LDA1 ERS# MTX ADD# ERS ATL LDD# ERS CLL TEG	66666 33333 RL R0000 33333 RL	33333		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321	4541 4346 4349 4708 4561 4571 4572 4579 4732	355 0 856 0 856 0 856 0 856 0 856 0 866 0 866 0	29 35 C1 70 35 77 29 70 35 31 82 0G	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579 4732	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579 4182 4786		LDA1 ERSX MTX ADDS ATL ADDS CLL TEG IIR1	66666 33333 RL R0000 33333	33333 33333 1F		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322	4586 4544 4346 4708 4561 4566 45726 4778 4786	355 0 356 0 356 0 356 0 356 0 356 0 356 0 356 0 356 0 356 0	29 35 C1 70 35 77 29 70 35 31 82 0G 70	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579 4732 0002 4388	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579 4182 4786 4367		LDA1 ERXXXX ADDX ATLA1 ADDX CLLQ IIR1 ADD	66666 33333 RL R0000 33333 RL	33333 33333 iF -NO#		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323	4586 4541 4349 4508 4561 4566 4572 4572 4788 4788	388 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0	29 35 C1 70 35 77 29 70 35 31 82 0G 70 99	8670 4393 4346 4351 0008 4508 8669 4568 0008 4732 0002 4388 9990	4541 4346 4349 4704 4561 4561 4166 4571 4726 4579 4182 4786 4367 0000	RAIDE	LDA1 ERS# ADD# ERL ADD# ERL TEG IIR ADD CON	66666 33333 RL R0000 333333 RL 0002	33333 33333 1F		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323	4586 4541 4349 4708 4561 4561 4572 4778 4778 4788 4368	388 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0 888 0	29 35 C1 70 35 77 29 70 35 31 82 0G 70 99	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579 4732 0002 4388 9990 4534	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579 4182 4786 4367 0000 4534	&NO#	LDA1 ERXX ADDS ATLA1 ERL LDDS CLEG IID CMP	66666 33333 RL R0000 333333 RL 0002 99999 S6	33333 33333 1F -NO# 00000		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325	4541 4544 4549 4506 4501 4501 4572 4772 4778 4778 4778 4778 4778 4778 47	355 0 355 0	29 35 C1 70 35 77 29 70 35 31 82 07 99 00 30	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579 4732 0002 4388 9990 4534 4184	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579 4182 4786 4367 0000 4534 4137	eno#	LDA1# MTDS ATAI ADS ATAI ADS CLEGI ADONP LDA	66666 33333 RL R0000 33333 RL 0002 99999 S6 11111	33333 33333 iF -NO#		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326	4544 4344 4344 4506 4506 4572 4773 4773 4773 4773 4773 4773 4773 47	388 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	29 35 C1 70 35 77 29 70 35 31 82 06 70 99 00 30 20	8670 4393 4346 4351 0008 4508 8669 4568 0008 4579 4732 0008 4534 4184 0008	4541 4346 4349 4704 4508 4561 4166 4571 4726 4579 4186 4367 000 4534 4137 4741	4.5	LDAS # # ADDS LDAS LDDS LDDS LDDS LDDS LDDS LDDS	66666 33333 RL R0000 33333 RL 0002 99999 S6 11111 RL	33333 33333 1F -NO# 00000		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327	4544 4544 4561 4561 45727 4573888 4573888 4574 4573888 4574 4574 4574 4574	388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 0 388 0 0 0 388 0 0 0 0	29 35 C1 70 35 77 29 70 35 31 82 07 99 00 30 20 85	8670 4393 4346 4351 0008 8669 4568 0008 4579 4732 0008 4534 4184 0008	4541 4346 4349 4708 4508 4561 4166 4571 4726 4579 4182 4786 4367 000 4534 4137 4741 4770	4.5	LERYNA HEALD AND AND AND AND AND AND AND AND AND AN	66666 33333 RL R0000 33333 RL 0002 99999 S6 11111 RL RA	33333 35333 iF -No# 00000		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328	4544 4344 4344 4370 4561 45727 4573 4573 4573 4573 4573 4574 4574 457	355 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	29 35 C1 70 35 77 29 70 35 31 82 07 99 00 30 20 85 35	8670 4393 4346 4351 0008 8669 4568 0008 4579 4732 0008 4184 0008 4774	4541 4346 4349 4708 4508 4561 4571 4726 4579 4182 4786 4367 04534 4741 4770 4176	4.5	LERYNDS HADDS LAW ADDS LAW ETLANDS LOUND LOUND HADDS LOUND HADDS LOUND HADD HADDS LOUND HADDS HADDS LOUND HADD HADD HADD HADD HADD HADD HADD HA	66666 33333 RL R0000 33333 RL 0002 99999 S6 11111 RL RA 00000	33333 33333 1F -NO# 00000		
1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327	4544 4544 4561 4561 45727 4573888 4573888 4574 4573888 4574 4574 4574 4574	388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 388 0 0 0 388 0 0 0 388 0 0 0 0	29 35 170 35 77 27 35 31 82 67 99 03 85 37	8670 4393 4346 4351 0008 8669 4568 0008 4579 4732 0008 4534 4184 0008	4541 4346 4349 4708 4508 4561 4166 4571 4726 4579 4182 4786 4367 000 4534 4137 4741 4770	4.5	LERYNA HEALD AND AND AND AND AND AND AND AND AND AN	66666 33333 RL R0000 33333 RL 0002 99999 S6 11111 RL RA	33333 35333 iF -No# 00000		

			-						
1331	4390	888	0 7	70 454	2 4546		ADD	1F	
1332	4546	888	0 .	SO BOA	4100		STA	SHRI	
1333	4100	888	0 :	25 455	2 4154		LDA#	00090	00000
1334	4154	888	0	75 000	3 4509		SUB	RL	
1335	4509	888	0 1	70 454	2 4746		ADD	15	
1336	4746	888	0 6	50 BIA	4300		STA	SHR2	2F
1337	4542	888	0 :	32 000		1	SHR	0000	RL
1338	4300	888	0 2	29 867		1 2	LDAL		
1339	4155	888	0 0	9 867				R0003	
1340	4760	888		30 476	2 BOAC		LDL		SHR 1
1341	4762	888	0 :	35 436	6 4768		ERS#	HHHHH	HHHHB
1342	4768	888	0 6	55 B3F	3 4376		STX	TEMP	
1343	4376	888	0 3	30 477	B BIAC		LDL		SHR2
1344	4778	888	0	32 010	3 4384		SHR	0100	
1345	4384	888	0 4	69 B67	0 4590		STX1	R0001	
1346	4590	888	0 2	29 866	9 4196		LDAI	R0000	
1347	4196	888	0 (	9 867	1 4551		LDX1	R0002	
1348	4551	888	0 :	30 475	3 BOAC		LDL		SHR 1
1349	4753	888	0 :	35 435	7 4709		ERS#	HHHHH	HHHHO
1350	4709	886	0 :	30 476	1 81AC		LDL		SHR2
1351	4761	888		32 010	0 4717		SHR	0100	
1352	4717	358		69 B66			STX1	R0000	
1353	4576	888		30 477	9 BOAC		LDL		SHR 1
1354	4779	888		35 458	4 4537		ERS#	HHHHH	00000
1355	4537	888		77 453			ATL		
1350	4790	356	_	25 B3F	B 4744		LDA	TEMP	
1357	4744	888		06 414			CLX		
1358	4147	888		32 050			SHR	0500	
1359	4355	888		20 000			SUF	RL	
1360	4159	855		60 BJF			STA	TEMP	
1361	4163	888		25 B7A			LDA	MUML	
1362	4167	858		50 B2A			STA	RB4	
1363	4771	838		25 520			LDA4	M0001	
1364	4354	888		70 455			ADD		-#
1365	4556	888		98 000			CON	98000	00000
1366	4363	888		25 456		-#	LDA#	09000	00000
1367	4776	898		05 436		•	LDX	4#	CMPL*
1368	4364	888		30 B3F		8#	LDL	TEMP	
1369	4731	888					LDX		1F
1370	4784	888	_				CON	88888	00000
1371	4737	886	-			1	LDA		8F
1372	4191	888		000		_	CONT	00000	00000
1373	4593	358	_	70 000		8	ADD	RL	
1374	4198	388		32 475			TEG	2F	
1375	4752			25 000	-		LDA	RL	
1376	4756	888		32 010			SHR	0100	20 A C. 18 C. 1
1377	4563	888		35 416			gRS#	ОНННН	ОНННН
1378	4567	888		77 456			ATL	49.4	18
1379	4751			25 000		2	LDA	RX	# 18.8c 48.8c 4
1380	4555	888	U.	35 455	7 4359		ERS#	00000	HHHHH

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1381	4359	88B 0 20	0008	4763		BUF	RL		
1382	4763	888 0 77	4763	4766		ATL		2 <b>F</b>	
1383	4766	358 O 25	8 <b>3FB</b>	4181	2		TEMP	•	
1384	4181	898 0 50	BJFB	4187	-	LDA STL	TEMP		
1385								110000	
	4187	898 0 35	4391	4793		ERS#	H0000	H0000	
1386	4793	898 0 30	BPAC	4347		LDL	KEY		
1387	4347	888 0 82	4500	4700		TEG	_	2F	
1388	4500	888 0 25	BJFB	4554		LDA	TEMP		
1289	4554	888 0 35	4757	4559		ERS#	HHHOH	COHMH	
1390	4559	888 0 30	4714	4767		LDL#	00000	88800	
1391	4767	888 0 82	4381	4581		TEQ		<b>JF</b>	
1392	4381	888 0 25	4387	4591		LDA		4F	
1393	4387	388 0 00	0000	HODO		CON	00000	0000H	
1394	4581	888 0 25	83F8	4587	3	LDA	TEMP		
1395	4587	888 0 35	4791	4194	-			HH000	
1396	4194	888 0 30	4396	4398		LDL#	00000	88000	
- 1397	4398	888 Q 82	4754	4700		TEQ	00000	2F	
1398	4754	888 0 25	4708	4591		LDA		4F	
1399	4708	888 0 00	0000	ООНН		CON	00000	ооонн	
1400	4591	888 0 35	83F8	4596	4	ERS	TEMP	OGGINI	
1401	4596	888 0 37	0400	4755	7	SHL	0400		
1402	4755	888 0 70	COOA						
1403	4164	888 0 60		4164		ADD	RA		
1404	4781		BZAB	4781		STA	R84		
1405		898 0 77	4781	4787		ATL	C=0.41		
	4787	888 0 25	4742	4394		LDA	SERAL	00001	
1406	4394	888 0 70	4796	4549			00000	00001	
1407	4549	88B 0 60	4742	4594		STA	SERAL		
1408	4594	888 0 70	0008	4749		ADD	RL		
1409	4749	898 0 05	87AC	4158		LDX	MUML		
1410	4158	888 0 65	BJAB	4564		STX	RB5		
1411	4564	688 3 70	5201	4358			M0001		
1412	4358	858 3 60	5201	4558			M0001		
1413	4558	888 0 25	4146	4598		LDA	N		
1414	4598	888 0 70	4742	4547		ADD	SERAL		
1415	4547	888 2 60	5001	4534		STA4	STOPT	<b>S6</b>	
1416	4700	888 0 30	83F8	4758	2	LDL	TEMP		
1417	4758	858 0 05	4534	4736		LDX	56	COMP*	
1418	4534	888 0 30	4588	4192	\$6	LDL#	88888	86888	X3. TRANSFER REMARKS
1419	4192	888 0 25	8670	4747		LDA	R0001		
1420	4747	888 0 82	4150	4350		TEQ		1F	
1421	4150	BBB 0 25	8672	4759		LDA	R0003		
1422	4759	888 0 82	4764	4350		TEQ		1F	
1423	4764	888 0 25	8674	4382		LDA	R0005		
1424	4382	888 0 82	4788	4350		TER		1F	
1425	4788	38B 0 25	B676	4392		LDA	R0007		
1426	4392	888 0 82	4197	4350		TEO		1F	
1427	4197	888 0 25	8678	4365		LDA	R0009	•	
1428	4365	888 0 82	4582	4350		TEO	2F	1F	
1429	4350	BBB 0 30	4765	4740	1	LDL	<b>6</b> F.	COMT*	
1430	4765	888 0 25	4782	4592	-	LDA		8F	
	•••	A 52		7.47.5		-LVA		u,	

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1431	4782	888 0 00	8678	8669		JMP	R0009	R0000			
1432	4592	888 0 80	0989	4582	8	TDC	20000	2F			
1433	4582	888 0 25	BSFH	4792	2	LDA	RTAG	•••			
1434	4792	888 0 31	4397	4397	~	CLL	1177				
1435	4397	888 0 82	4112	4189		TEO	FIN	-PRI			
1436	0989	888 0 00	0000	0000	20000	CON	00000	00000			
1437	0991	888 0 00	0000	0000	Z0002	CON	00000	00000			
1438	0993	898 0 00	0000	0000	20004	CON	00000	00000			
1439	0995	888 0 00	0000	0000	Z0006	CON	00000	00000			
1440	0997	888 0 00	0000	0000	20008	CON	00000	00000			
1441	0990	388 0 88	8888	8888	Z0001	CON	88888	88888			
1442	0992	888 0 88	8888	8888	Z0003	CON	86668	86868			
1443	0994	858 0 88	8888	8888	Z0005	CON	88888	8 <b>88</b> 88			
1444	0996	888 0 88	9888	8888	Z0007	CON	98888	88888			
1445	0998	888 0 88	8888	3888	20009	CON	88888	88888			
1446	4.70	550 6 00	<b>660</b> 0	<b>Mac</b> ()	20007	ННН	900-0	00000			
1447	4701	888 0 60	4146	0548	\$2	STA	N		Xa.	COMPILE	O1 OP
1448	0548	88B 0 70	0550	0553		ADD#	01000	00000	~~•	COMPER	0. 0,
1449	0553	888 0 05	0555	4332		LDX	01000	CMPL*			
1450	0555	858 0 30	81F6	0559		LDL	LINE	CITEL			
1451	0559	888 0 05	0561	4736		LDX	File	COMP*			
1452	0561	888 0 30	0563	4740		LDL		COMT#			
1453	0563	888 0 25	BEAC	0767		LDA	MUMI	COMIT			
1454	0767	88B 0 60	BZAB	0571		STA	RB4				
1455	0571	898 2 07	0006	0775	* **	IIR4					
1456	0775	888 0 60	BEAC	0579		STA	0006				
1457	0579	858 0 25	0581	0583			MUMI	8F			
1458	0581	888 0 00	8670	8669		LDA JMP	R0001	R0000			
1459	0583	888 2 88	5194	0599	8		<b>#9994</b>	NOODO			
1460	0599	88B 0 70	0401	0404	<b>U</b>		00000	20002			
1461	0404	858 2 88	5196	0420			W9996	2000			
1462	0420	898 0 70	0422	0425			00000	20002			
1463	0425	888 2 88	5198	4112			w9998	FIN			
1464	4374	888 0 30	0576	4505	53	LDL	4,7,70	BOK	Xq.	COMPTLE	CONDITION
1465	0576	888 0 25	8670	0580		LDA	R0001	SION	~	00:4 155	
1466	0580	888 0 35	0582	0584			00000	ННННН			
1467	0584	898 0 30	0586	0588			00000	88888			
1408	0588	888 0 82	0591	0791		TEO	1F				
1469	0791	888 0 25	B7AC	0595		LDA	MUML				
1470	0595	888 0 60	BZAB	0799		STA	R84				
- 1471	0799	888 2 25	5201	0403			W0001				
1472	0403	888 0 70	0405	0408			01000	00000			
1473	0408	BBB 2 60	5201	0603			W0001				
1474	0603	888 0 70	0605	0608		ADD	4444	-FLO			
1475	0605	888 0 97	0000	0000		CON	97000	00000			
1476	0608	888 0 25	0410	0412	-FLO	LDA	- 1	2F			
1477	0410	888 0 06	0000	0000	·	COM	06000	00000			
- 1478	0609	88B 0 25	0411	0412	&FL0	LDA		2F			
1479	0411	888 0 05	0000	0000	-, -, -	CON	05000	00000			
1480	0591	888 0 25	0593	0412	1	LDA	220-0	2F			
			4377	# 7 # 54	-	~~~		•			

1481	0593	888 0 08	0000	9000		CON 080	00000	
1482	0412	888 0 05		4332	2	LDX	CMPL*	
1483	0414	89B 3 30		2418	7,000	LDL DK	Gra m.	
1484	0418	888 Q 05		4736		LDX S5	COMP*	
1485	4152	888 0 05		0556	54	LDX# 030		
1486	0556	888 0 30		0560		LDL	TERM#	X6. FINISH PREV SECTION
1467	0558	888 0 25		0562		LDA DK		
1488	0562	888 0 37		0566			.00	
1489	0566	888 0 35		0570		ERS# HOO		
1490	0570	888 0 60		0574		STA KEY		
1491	0574	888 0 31	0577	0577		CLL		
1492	0577	858 0 08		0780		LIRI 00	OO -CLR	X7. INITIALIZE
1493	0780	888 0 54	5001	COSO	-CLR	STL1 STO		
1494	0803	888 0 OG	0002	0407		IIR1 00	02	
1495	0407	888 0 70		0780		ADD	-CLR	
1496	0409	898 0 99		0000		CON 999	80 00000	
1497	0781	888 0 50		0585	&CLR	STL MUM		
1498	0585	888 0 50		0589		STL COM		
1499	0589	888 0 50		0594		STL SER	AL	
1500	0594	888 0 50	_	0598		STL N		
1501	0598	898 0 30		0402		LDL	PAGE*	
1502	0400	888 0 30		4740		LDL FIN		
1503	0402	888 0 50		0406	PAGE*	STL -SK		SKIP TO BEGINNING OF PAGE SUBROUTINE
1504	0406	888 0 25	0808	0610		LDA# 000	00 00066	
1505	0610	888 0 75		0415		SUB LC		
1506	0415	888 0 31	0618	0618		CLL		
1507 1508	0618 0622	888 0 50 888 0 37		0622		STL LC	00	
1509	0429	888 0 30	0400	0429 0433		SHL 04		
1510	0433	888 0 87	0436	0636		LDL# 000		
1511	0436	888 0 70		0441		ADD# 000	01 00000	
1512	0441	888 0 20	0443	0636		BUF	1F	
1513	0443	888 0 00	0040	0000		CON ODO		
1514	0636	888 Q 70	0638	GOOA	1	ADD	RA	
1515	0638	888 0 16	0000	0804	•	PFD 00		
1516	0805	888 0 67	3333	OOOA	&SKIP	HLT 33		
1517	0560	888 0 50	BOFB	0564	TERM#	STL EXI		TERMINATE SECTION SUBROUTINE.
1518	0564	888 0 31		0967		CLL	•	RL IS THE EXIT, RX IS THE 03 OR 04 TO COMPILE
1519	0967	888 0 25		0771		LDA MUM	1	THIS SUBROUTINE DOES WHAT IS DESCRIBED
1520	0771	888 0 82	BOFB	0774		TEO EXI		UNDER SUBSECTION X6.
1521	0774	888 0 30		0778		LDL RX		
1522	0778	888 0 05	0980	4736		LDX	COMP*	
1523	0980	888 0 25	BBAC	0784		LDA COM		
1524	0784	888 0 30	0785	0788		LDL# 999		
1525	0788	888 0 70		AOOC		ADD	RA	
1526	0590	888 Q 50		3003		STL CHT		
1527	3003	888 0 05		0607		LDX 2F		•
1528	0607	888 0 30		8919		LOL	TSUB*	
1529	0809	898 0 C6		3005		TBL COM	TS 2F	
1530	3005	888 0 H2	0700	0822	2	TWR OTAL	P3	
								·

			_							
1531	0822	886	0	98	0000	0625		LIRI	0000	4F
1532	0532	888	0	OG	0200	0536	1	IIR1	0200	
1533	0536	898	0	30	BOAC	0540		LDL	MUMI	
1534	0540	888	0	87	0543	0625		TGR	3F	4F
1535	0625	888	0	05	0427	0629	4	LDX	2F	
1536	0629	888	0	30	0631	8919		LDL		TSUB*
1537	0631	888	0	CF	5000	0427		TBL 1	<b>#9800</b>	2F
1538	0427	888	0	H2	0600	0532	2	TWR	OTAP2	18
1539	0543	888	0	25	0545	0547	3	LDA#	99999	99999
1540	0547	888	0	64	5199	0601		STAL	<b>#9999</b>	
1541	0601	888	0	05	3203	3205		LDX	2F	
1542	3205	838	0	30	0807	9919		LDL		TSUB*
1543	0807	888	0	CF	5000	3203		TBL 1	W9800	2F
1544	3203	356	٥	H2	0600	BOFB	2	TWR	OTAP2	EXIT

1545	0745	858		0300	0762	BOP	TRO	ITAPL		₽.	BEGINNING OF ASSEMBLY
1546	0762	898		3167	0565		TAT		1F	81.	CHECK INPUT TAPE
1547	3167	888 0	67	4444	0745		HLT	4444	80P		
1548	0565	888 0	25	4223	0975	1	LDA	TCON1			
1549	0975	888 0		BBFG	0779		STA	TCONT			
1550	0779	888 0		0745	0747		LDA	80P		22	READ BLOCK
1551										92.	READ BLOCK
	0747	888 0		89FG	0551		STA	LTAPE			
1552	0551	888		0753	0755		LDX	1F			
1553	0755	898 0	30	0000	9919		LDL	RX	TSUB*		
1554	0753	888 0	G2	0300	0770	1	TRD	ITAP1			
1555	0770	888 0		4624	0776		LDA	TCON2			
1556	0776	888		BBFG	3180		STA	TCONT			
1560	3180	888		0782				1 COM			
1561					0984		LDL	00000	1F		
	0782	888 1		0000	0001			00000	00001		
1562	0984	888 0		BIFG	0988	1	STL	LINE			
1563	0988	888 0		3191	3191		CLL				
1564	3191	888 0	50	B7FG	0795		STL	TAPEI	1F	93.	INITIALIZE
1565	HAPE	888 0	08	0999	0671	BOPL	LIRI	0999			
1566	0671	858 0	31	0474	0474		CLL	2F			
1567	0474	888 0		1000	0602	2		STAB			CLEAR SYMBOL TABLE IN MULTIPLE ASSEMBLY.
1568	0602	888 0		0604	3007	_	ADD	•,,,,,	-BOPR		APPOINT ATTUMENT OF LIAMES AND MARKET AND MARKET AND ADDRESS OF A STATE OF THE PROPERTY OF THE PROPER
1569	0604	858						10000			
				0000	0000	2002	CON	12000	00000		
1570	3007	898 0		1000	3008	-BOPR		STAB	&BOPR		
1571	3008	888 0		9999	0612	<b>&amp;BOPR</b>	IIR1	9999			
1572	0612	888 0		0795	0474		TEO	15	28		
1573	0795	888 0	50	BJFC	3199	1	STL	CORE			
1574	3199	888 0	50	BUFC	3603		STL	BLANK			
1575	3603	888 0		87FH	3207		STL	FTAG			
1576	3207	888 0		BSAC	0611		STL	ACCUM			
1577	0611	888 0		BEAC	0615		STL	MUMI			
1578	0615	838 0									
1579				BZAC	0419		STL	LC			
	0419	698 0		BJAC	0423		STL	LINEO			
1580	0423	888 0		0000	0626		LIRI		-8P		
1581	0626	888 0		8649	0831	-8P	STLI	10000			
1582	0831	888 0	OG	0001	0435		IIR1	0001			
1583	0435	888 0	70	0437	0626		ADD		-82		
1584	0437	888 0		9980	0000		CON	99998	00000		
1585	0627	888 0		0829	3031	&BP		,,,,,			
1586	0829	888 0	00	8616	8417	a Dr.	LDA	D0199	8F <b>D000</b> 0		
1587	3031	888 0		7800		•			00000		
1588					0446	8	TDC	Y0000			
	0446	888 0		4800	0461		TCD	70000			
1589	0461	888 0		0463	0465			BGGGG	99999		
1590	0465	898 0		8418	0469		STL	D0001			
1591	0469	888 0		0001	0472		LIRI	0001			
1592	0472	888 0	30	0674	0676		LDL		-891		
1593	0674	388 0		GGG9	9999		CON	GGGGG	99999		·
1594	0676	888 0		8418	0481	-BP1	STLI		****		
1595	0481	888 0		0001	0485	<b>.</b> .	IIRI				
1596	0485	888 0		0487	0676		ADD	004	-801		
	J . J J	V		Q 70 /	VV.0		M D D		-01-4		

1597 1598	0487 0677	888			9800 0479	0000 0681	&BP1		00000	00000 88600				
1599 1600	0681 0685	888	0	50	86FH 4056	0685 0508	ant.	STL	HTAG ONS#	00990				
1601 1602	0508	888	0	50	4439	0541		STL	SWICH					
1603	0953	898	0	50	4201 4200	0953		STL	START					
1604	0802 0641	888	0	60	4189 8901	0641 0445	WRITE	STA	-PRI -OEX	WRITE	84.	OUTPUT	GETS	LOADER
1606	0445	888	0	26	8902	3902		CLA	#0EX					

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	1608	87AG	898 1 08	0002	Q <b>669</b>	END	LIR3	0002		z.	ENDING OF ASSEMBLY.
	1609	0669	858 0 05	0871	0673		LDX	2F			FIND* M.
	1610	0673	888 0 30	0675	8810		Loc	- F	FIND*		11194 110
	1611	0675	888 0 67	OOOA	0871		HLT	RA	2F		
	1612	0871	888 0 20	0873	0875	2	BUF	1F	•	72.	ASSEMBLE TRANSFER
	1613	0875	888 0 05	0877	0679	-	LDX	2F		~	-305:106# 1W.IO. #11
	1614	0679	33B 0 30	0881	8900		LDL	25	OTPT*		
	1015	0881	888 0 25	BSAC	0687		LDA	ACCUM	GIFT		
	1616	0687	88B 0 60	BOFB	0491		STA	ERROR		73.	CLEAN OUTPUT BUFFER.
	1617	0491	888 0 25	0493	0495		LDA	3F		274	CEERS OUT OF SOMER
	1618										
		0495	888 0 60	4200	0502		STA	START	WDITE		
	1619	0502	888 0 25	BJAG	0641	•	LDA	PSUDX	WRITE		
	1620	0873	888 0 67	HHHH	0000	1	HLT	HHHH	0000	<b>**</b> 11	P IFAT D. DED
	1621	0493	888 0 30	0695	0402	3	LDL		PAGE*	44.	EJECT PAPER
	1622	0695	888 0 30	0497	0402		LDL	0#000	PAGE*		Making 611 mt A
	1623	0497	888 0 05	0499	0501			04000	00000	23.	FINISH FLO
	1624	0501	888 0 30	0503	0560		LDL		TERM*		
	1625	0503	858 0 67	BPAH	0703		HLT	BOP1			
	1626	0703	888 0 F2	0500	0500		TRW	OTAPI		m .	
	1627	0500	888 0 31	0903	3903		CLL			Z6.	HALT
	1628	0903	888 0 25	87FH	0507		LDA	FTAG			
	1629	0507	888 0 82	0510	0710		TEQ	1F		Z7.	FLO#CHARTING
	1630	0710	888 0 F2	0600	0600		TRW	OTAP2			
	1631	0600	888 0 F2	0700	0700		TRW	OTAPS			
	1632	0700	888 Q G2	0400	0517		TRD	0400			
	1633	0517	888 0 F6	8000	8000		TBU	8000	8000		
	1634	0510	888 0 G2	0500	0527	1	TRD	OTAP1			
	1635	0527	888 0 C7	0510	0530		TBT	18			
_	1636	0530	888 0 F6	7800	7801		TBU	Y0000	Y0001		
	1637	0877	888 0 00	0000	7905	2	JMP	0000	Y0105		
	1638	HACE	888 0 30	0670	0402	PAT	LDL		PAGE*		
	1639	0670	888 0 06	3073	3073		CLX				
	1640	3073	888 0 63	3073	0476		ZAP				
	1641	0476	888 0 60	0200	3002		STA	0200			
	1642	3002	888 0 65	0223	0825		STX	0223			
	1643	0825	88B 0 60	0262	0664		STA	0262			
	1644	0664	888 0 65	0267	0869		STX	0267			
	1645	0869	888 0 60	0294	0496		STA	0294			
	1646	0496	888 0 65	0299	0701		STX	0299			
	1647	0701	888 0 60	0303	0505		STA	0303			
	1648	0505	888 Q 65	8020	0910		STX	0308			
	1649	0910	888 0 60	0325	0727		STA	0325			
	1650	0727	888 0 65	0330	0732		STX	0330			
	1651	0732	888 0 60	0334	0736		STA	0334			
	1652	0736	888 0 65	0339	0741		STX	0339			
	1653	0741	888 0 60	0365	3367		STA	0365			
	1654	3367	888 0 65	0370	9772		STX	0370			
	1655	0772	888 0 60	0378	3380		STA	0378			
	1656	3380	888 0 65	0383	0785		STX	0383			
	-				<del></del>		J	V- V-			

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	1657	0785	888	0 0	9999	3188		LIRI	9999	-PAT
	1658	3188	888	0 0	G 0001	0592	-PAT	IIRL	0001	
	1659	0592	888	0 3	0 0794	0596		LDL#		00000
	1660	0596	888	0 8	2 3399	3799		TEQ	1F	
	1661	3799	388	0 6		0620		STA	0218	
	1662	0620		0 2		3025		LDAL		
	1663	3025		0 0		8920		LDX	5000	UNDG+
	1664	0827		0 6		0683		STX	0281	<b>01.0</b> 4*
	1665	0683		0 6		0688		STA	0286	
	1666	0688		0 2		0693		LDAI		
	1667	0693		0 0		8920		LDX	2003	UNDG*
	1668	0895		0 6		0652		STX	0250	CHOOT
	1669	0652		0 6		0657		STA	0255	
	1670	0657	888			0662		LDAI		
	1671	0662	888			8920			00101	HARRA
	1672	0864	888			0643		LDX	0241	UNDG*
	1673	0643		0 6				STX		
	1674	0448				0448		STA	0246	
	1675	0453		0 2		0453		LDAI	00151	HANGE
	1676	0455		0 0		8920		LDX		UNDG+
	1677		888			0811		STX	0209	
_	1678	0811	888			0416		STA	0214	
	1679	0416	888			3188	2017	PRN	0201	-PAT
		3189		0 6		OOOA	SPAT	HLT	3333	RA
	1680	3399		0 1		4189	1	PFD	0016	-PRI
	1681	BAAG		0 2		0970	NEW	LDA	A	
	1682	0970		1 0		0573		LIR3		
	1683	0573		0 0		0976		LIRI	9999	
	1684	0976		0 0		3780		LDX	2F	
	1665	3780		0 3		8810		LDL	1F	FIND*
	1686	0978		0 6		3182	2	STA	ALOC	
	1687	3182		0 3	-	4530		LOL		PSIGN
	1688	3184		0 3		3388		SHR	0100	
	1689	3388		0 3		0792		LDL	MC	
	1690	0792	888			0796		SML	RX	
	1691	0796		0 2	5 85FC	0800		LDA	ALOC	
	1692	0800		0 3		3607		SHL	0400	
	1693	3607	888	0 7	0 3009	AOOD		ADD		RA
	1694	3009	888	0 5	0000	BJAG		STL	0000	PSUDX
	1695	0982	888	0 2	5 8706	0986	1	LDA	A	
	1696	0986	388	0 0	6 0789	0789		CLX		
	1697	0789	888	0 6	9 1000	3202			STAB	
-	1698	3202	898	0 3		3807		SHR	0200	
	1699	3807	888			3011			88000	88000
	1700	3011	388			0815		LDX	15	
	1701	0815	898			0818		ATL	•	
	1702	0818	888			9712		LDA	RX	SRCH*
	1703	0413	888			4530	1	LDL	* 171	PSIGN
	1704	3015	888			0619	-	SHR	0100	· was said
	1705	0619	888			0623		LDL	MC	
	1706	0623	888			3027		SML	RX	
	-							A MA	. 171	

SPECIAL SECRET OP NEW
FIND A. IF UNDEFINED PUT IT AS OP IN
SYMBOL TABLE WITH EQUIVALENT IN M AND C.
IF DEFINED PUT CONTENTS OF M AND C INTO
THE GADAAD PROGRAM IN THIS LOCATION.

1707	3027	888	٥	54	2000	BAG		STLI	ETAB	PSUDX
1708	a736	358	ă		aJFB	0740	ERR1#	STA	TEMP	, 500
1709	0740	888	3	65	84F8	0544		STX	TEMPL	
1710	0544	888	1	OG	0001	0748		IIR3	0001	
1711	0748	888	0	06	0751	0751		CLX		
1712	0751	888	0	32	0400	0758		SHR	0400	
1713	0758	888	0	05	0760	8760		LDX	15	ERR2+
1714	8760	886			86F8	0766	ERR2#	BUF	ERROR	
1715	0766	388	0	37	0100	3170		SHL	0100	
1716	3170	888	0	60	86FB	0974		STA	ERROR	
1717	0974	888	0	60	BSAC	0000		STA	ACCUM	RX
1718	0760	888	1	OG	9999	0764	1	IIR3	9999	
1719	0764	888	0	25	BJFB	0968		LDA	TEMP	
1720	0968	888	0	05	84F8	0008		FDX	TEMP1	RL

ERROR SUBROUTINE
ACCUMULATES IN ERROR THE ERROR CODES
FOR A LINE.
ERRI*: CODE IS RB3+1+ INDICATING THE FIELD
EXIT IS IN RL.

ERRZ## CODE IS IN RA. EXIT IS IN RX.

	-				
0000044044	**	0055544044	000000000	0000544044	0027544044
0000544044	* .	0055544044	0000010000	0000544044	0000544044
0000000044	<b>●</b> ** 14	0000544044	0000020000	0005544044	0055544044
000000004	♥~~	0005544044	0000030000	0000044044	0000044044
0000044044	rger	0055544044	0000040000	0055544044	0005544044
0000000044	*	0005544044	0000050000	0005544044	
0005544044		0055544044	000060000	0055544044	0000544044
000000000	765	0000544044	0000070000	0005544044	0005544044
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SIMPLE OBJECT PROGRAM LOADING ROUTINE GOES INTO BAND 7800. THE ODD LOCATIONS.

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* Z. QADAAD ASSEMBLER PASS Z.

* TABLE OF CONTENTS

A. AJST* SUBROUTINE.

B. BEGINNING OF ASSEMBLY

C. CONTROL OPS.

D. DEFINE ADDRESS (DEFN*)

E. EDIT INPUT CARD

F. FIND AND RESERVE BEST LOCATION (FARB*)

L. PROCESS A ADDRESS.

O. OUTPUT SUBROUTINE.

P. PROCESSING OF INSTRUCTIONS.

G. MASTER ADDRESS CALCULATOR (FIND*)

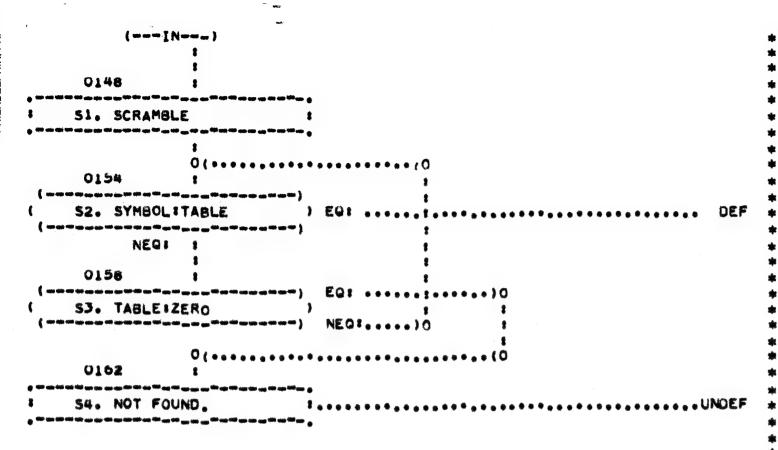
* S. SYMBOL TABLE SEARCH (SRCH*

X. EXAMINE REMARKS FIELD

L. ENDING OF ASSEMBLY.

THIS PASS DOES THE ACTUAL ASSEMBLY.

THE SHOW BEGINS AT ROUTINE B.



- SYMBOL TABLE SEARCH (SRCH+) THIS SUBROUTINE LOOKS UP A 5-CHARACTER QUANTITY TO SEE IF IT IS IN THE SYMBOL TABLE. OP-CODES . REGIONAL ADDRESSES . PAIR ADDRESSES . AS WELL AS SYMBOLIC ADDRESSES ARE KEPT IN THE SYMBOL TABLE. THERE ARE TWO EXITS DEPENDING ON WHETHER THE SYMBOL IS OR IS NOT IN THE TABLE. ALL REFERENCES TO THE SYMBOL TABLE ARE MADE VIA SRCH+.
- SI. SCRAMALE THE SYMBOL IS CONVERTED TO A THREE-DIGIT NUM-HER TO INDICATE WHERE THE SEARCH WILL START. THIS SPEEDS UP THE SEARCH CONSIDERABLY.
- 52. SYMBOLITABLE IF THE SYMBOL IS AT THIS PLACE IN THE TABLE. GO TO DEF.
- S3. TABLE : ZERO IF THE TABLE ENTRY IS ZERO. GO TO S4. OTHERWISE WE MOVE TO THE NEXT TABLE ENTRY AND RETURN TO \$2.
- 54. NOT FOUND. WE HAVE ENCOUNTERED A NEW SYMBOL SINCE THE TABLE IS INITIALLY ALL ZEROES. STORE THE NEW SYMBOL IN THE TABLE MERE AND GO TO UNDEF.
- CODING DETAILS: ON INPUT. RL IS THE SYMBOL. RA IS UNDEF. AND RX IS DEF. OUTPUT IN RBI IS THE LOCATION IN THE TABLE. AND IF DEFINED THE EQUIVALENT OF THE SYMBOL APPEARS IN RA. THERE IS ROOM FOR 1000 SYMBOLS. IF THE 1001ST SYMBOL COMES ALONG. THE MACHINE LOOPS INDEFINITELY.

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8	F9. CALCULA	TE ADDRESS					i	
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F. FIND AND RESERVE BEST LOCATION (FARB*)
THIS SUBROUTINE IS USED TO CHOOSE LOCATIONS
FOR A M OR C ADDRESSES OF INSTRUCTIONS.
THE CORRESPONDING H-FIELD IS INTERPRETED AND
THE CHOICE IS MADE ON THIS BASIS.

FI. EXAMINE H-FIELD

IF IT SPECIFIES C(CORE) GO TO F4.

IF IT SPECIFIES D(DRUM) OR IS BLANK.

GO TO F3 WITH RB6 SET TO O.

IF IT SPECIFIES H(HIGH SPEED BANDS).

GO TO F3 WITH RB6 EQUAL TO 2.

THREE NUMERICS OR +NN MEANS A HAND-PICKED

LEVEL OR A CHANGE IN LEVEL ON THE DRUM. TO F2.

TWO NUMERICS MEANS A HANDPICKED HIGH SPEED

LEVEL. GO TO F2.

ANY OTHER MEANS THE H-FIELD IS IN ERROR.

GO TO F3 AND TREAT AS BLANK.

F2. USE HAND LEVEL

THE H-FIELD SPECIFIES A HAND PICKED LEVEL.

THIS SUPERCEDES THE LEVEL CALCULATED

BY GADAAD. ALTHOUGH IT WILL BE CHECKED

LATER BY THE AJST* ROUTINE.

F3. ADJUST FOR PAIRS

IF RB2 CONTAINS 5 AT THIS POINT WE HAVE
A PAIR ADDRESS. AND RB6 IS INCREASED BY 1.
THE CALCULATED LEVEL IS ADJUSTED 1 IF IT IS
A MINUS-PAIR ADDRESS. RB6 IS NOW EQUAL TO:
O: LOOK ON DRUM
1: LOOK FOR PAIR ON DRUM
2: LOOK FOR HIGH SPEED
3: LOOK FOR PAIR ADDRESS IN HIGH SPEED AREA
THE SETTING OF RB6 IS USED TO CONTROL THE

F4. ROOM IN CORE

IF RB2 CONTAINS 5 WE HAVE A PAIR ADDRESS AND

MUST RESERVE 2 LOCATIONS. OTHERWISE 1 LOCATION IN CORE. IF THERE IS NO ROOM LEFT IN

THE BOOO-B999 AREA. A SEMICOLON ERROR

INDICATION IS GIVEN AND WE TRY HIGH SPEED

ACCESS BY GOING TO F3.

APPROPRIATE OPERATIONS BELOW. GO TO F6.

F5. ASSIGN CORE ADDR.

CALCULATE THE EQUIVALENT OF THIS ADDRESS

AND THE ADDRESS ONE LESS IN CASE OF A PAIR
ADDRESS. EXIT.

F6. INITIALIZE
CALCULATE THE STARTING DRUM LEVEL: AND ALSO
MAKE AN EXTRA COPY OF LEVEL 199 AS LEVEL -1
IN CASE OF PAIR ADDRESS PROCESSING.

F7. TRY LEVEL

IF A DRUM ADDRESS SATISFYING ALL THE

REQUIREMENTS INDICATED BY RB6 EXISTS ON THIS

LEVEL. GO TO F9.

F8. DRUM EXHAUSTED

IF THE LEVEL WAS HAND CALCULATED, A SEMICOLON

ERROR IS INDICATED THE FIRST TIME STEP F8

IS EXECUTED.

IF WE HAVE GONE ALL THE WAY AROUND THE DRUM.

A SEMICOLON ERROR IS GIVEN AND THE ADDRESS

0000 IS ASSIGNED. TO F11.

IF WE HAVE EXHAUSTED THE HIGH SPEED BANDS. A SEMICOLON ERROR IS GIVEN AND WE TRY THE WHOLE DRUM. GOING TO F6.
OTHERWISE WE STEP TO THE NEXT DRUM LEVEL AND RETURN TO F7.

F9. CALCULATE ADDRESS

WE TRY TO FIGURE DUT WHAT DRUM ADDRESS WE
HAVE FOUND. PICKING THE SMALLEST ACCEPTABLE
ADDRESS ON THIS LEVEL. A SINGLE WORD OF
40 BITS IS KEPT FOR EACH DRUM LEVEL.
CORRESPONDING TO BANDS OF THRU 78. THE 5-BITS
COVER BANDS OF THRU 18. 4-BITS 20 THRU 38.
AND SO ON.

FIO.RESERVE ADDRESS.

FOR A PAIR ADDRESS THE ADDRESS IN THIS BAND
ON TWO ADJACENT LEVELS IS RESERVED.

OTHERWISE A SINGLE ADDRESS IS RESERVED. BY
TURNING ITS BIT OFF IN THE TABLE. AFTER THE
OPERATION: LEVELS -1 AND 199 ARE COMBINED
AS LEVEL 199.

F11.FINISH UP CALCULATE THE ADDRESS ADJACENT TO THE ONE FOUND IN CASE OF A POSSIBLE MINUS-PAIR ADDRESS: AND EXIT.

CODING DETAILS:
INDEX REGISTERS 1 2 AND 3 ARE NOT CHANGED BY
FARB+. ON INPUT THE H FIELD IS SPECIFIED
BY RB3+ THE CALCULATED BEST DRUM LEVEL IS IN
RA+ AND THE EXIT IS IN RL. THE OUTPUT
LOCATION FOUND IS IN RA AND AN ADJACENT
LOCATION IS STORED IN A SPECIAL TABLE.

(--- | N---)

- O. MASTER ADDRESS CALCULATOR (FIND*)
  THIS SUBROUTINE IS GIVEN THE CONTENTS OF
  THE SYMBOLIC A.M. OR C FIELD OF THE CARD AND
  ANALYZES IT. THERE ARE TWO EXITS. ACCORDING
  TO WHETHER THE ADDRESS IS DEFINED OR NOT.
- Q1. WHAT KIND

  IF BLANK GO TO Q2.

  IF SELF. GO TO Q3.

  IF FOUR RIGHTHAND PARTS ARE NUMERIC. TO Q4.

  IF THE LEFTMOST CHARACTER IS BLANK. HOWEVER.

  GO TO Q3.

  IF LOCAL FORWARD ADDRESS. TO Q7.

  IF LOCAL BACKWARD ADDRESS. TO Q8.

  IF LOCAL PLAIN ADDRESS N. TO Q9.

  IF PAIR ADDRESS. SET RB2 TO 5 AND GO TO Q10.

  IF THE SYMBOL FAILS TO PASS THE ABOVE AND BEGINS WITH A NUMERIC. GO TO Q6.

  OTHERWISE IT IS SYMBOLIC! WE SET RB2 TO 4
- AND GO TO Q10.
  Q2. BLANK: ZERO
  IF 'BLANK' IS ZERO, THE BLANK ADDRESS IS
  UNDEFINED, AND WE GO TO UNDEF.
  ELSE TO DEF.
- Q3. 'A' LOCATION
  THE * IS DEFINED AS THE VALUE OF A LOCATION.
  IF IT APPEARS IN A. OR IN CERTAIN CONTROL OPS
  IT IS THE VALUE OF THE PRECEDING A LOCATION.
  TO DEF.
- G4. CHANGE TO ROODO.

  CHANGE THE REGIONAL ADDRESS TO ROODO AND SET RB2 TO ZERO. WE GO THEN TO LOOK THIS UP IN THE SYMBOL TABLE: AT STEP Q10.
- Q5. PROCESS ABS ADDR.

  IF ANY PART OF THE ADDRESS IS BLANK OR
  HAS ZONES OF 2 OR 3. GO TO Q5. OTHERWISE
  USE THE ZONES TO PRODUCE UNDIGITS FOR ABCFGH.
  AND SEND THE RESULTING ADDRESS TO DEF.
- 96. ERROR SET UP ERROR FLAG FOR CURRENT FIELD AND SET THE ADDRESS TO ZERO. TO DEF.
- Q7. I(N):ZERO

  IF THE FORWARD LOCAL TABLE ENTRY FOR N IS

  ZERO IT IS UNDEFINED:WE GO TO UNDEF. ELSE IT

  IS DEFINED AND DEF.
- Q8. J(N):ZERO

  IF THE BACKWARD LOCAL TABLE ENTRY FOR N IS

  ZERO IT IS UNDEFINED AND WE GO TO Q6 SINCE

  THIS SHOULDN.T HAPPEN. ELSE IT IS A

  DEFINED ADDRESS WHICH IS SENT TO DEF.
- G9. I(N):ZERO
  IF THE FORWARD LOCAL TABLE ENTRY FOR N IS
  ZERO THIS ADDRESS IS UNDEFINED. GO TO UNDEF.
  ELSE IT IS DEFINED AND WE TRANSFER IT TO THE
  BACKWARD LOCAL TABLE AND EXIT TO DEF.
  IN EITHER CASE RESET FORWARD LOCAL ENTRY O.
- G10.5RCH+ SEARCH FOR THE ITEM IN THE SYMBOL TABLE.

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IF FOUND . GO TO DEF . ADJUSTING FOR REGIONAL ADDRESS IF NECESSARY. IF NOT FOUND . WE GO TO UNDEF.

## CODING DETAILS!

INPUT TO FIND* IS DEF IN RX AND UNDEF IN RL.

RB3 CONTAINS THE FIELD TO BE EXAMINED.

AT EXIT DEF: RA CONTAINS THE DEFINED

EQUIVALENT IN ITS C ADDRESS POSITION.

AT EXIT UNDEF: RB2 CONTAINS INFORMATION

ABOUT THE TYPE OF ADDRESS AS FOLLOWS:

- 11 LOCAL FORWARD N IS IN RB5
- 21 BLANK

O: REGIONAL

- 31 LOCAL PLAIN N IS IN RB5
- J: SYMBOLIC SPOT IN SYMBOL TABLE IS RB1
- K: PAIR ADDRESS RB5 IS O FOR &. 1 FOR -.

- D. DEFINE ADDRESS (DEFN*)
  THIS SUBROUTINE IS USED AFTER FIND* HAS
  DETERMINED AN ADDRESS IS UNDEFINED. IF THIS
  IS NOT AN ERROR CONDITION, SOME WAY OF
  CALCULATING AN ADDRESS, USUALLY FARB*, IS
  USED AND THEN THIS ROUTINE DEFN* TAKES OVER.
- D1. WHAT TYPE
  IF THE ADDRESS TO BE DEFINED IS REGIONAL,
  GO TO D2.
  IF LOCAL FORWARD. ENTER IN I TABLE AND EXIT.
  IF BLANK. ENTER IN 'BLANK' AND EXIT.
  IF LOCAL PLAIN. ENTER IN J TABLE AND EXIT.
  IF SYMBOLIC. ENTER IN EQUIVALENTS TABLE, EXIT
  IF PAIR ADDRESS. GO TO D3.
- D2. CALCULATE BASE
  REGIONAL ADDRESSES ARE DEFINED ONLY BY
  CONTROL OPS LIKE BLR. THE DEFINING ADDRESS
  MINUS THE INCREMENT. THE ADDRESS CORRESPONDING TO RODOO. IS STORED IN THE
  EQUIVALENTS TABLE. EXIT.
- THE DEFINED ADDRESS IS STORED IN THE SYMBOL TABLE. THEN & IS CHANGED TO OR VICE VERSA AND THAT SYMBOL PLUS ITS EQUIVALENT ARE ALSO STORED AWAY. THE ASSUMPTION IS MADE THAT FARB* WAS USED TO CALCULATE THE ADDRESSES. EXIT.

CODING DETAIL:

THE EXIT IS INPUT IN RL AND THE CALCULATED ADDRESS IN RA. OTHER INPUTS ACTUALLY USED ARE RB2 TO TELL THE TYPE; AND RB1 AND RB5 TO GIVE EXTRA INFORMATION AS SUPPLIED BY THE FIND* SUBROUTINE. AT EXIT, RA CONTAINS THE DEFINED EQUIVALENT.

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- A. AJST* SUBROUTINE.
  THIS SUBROUTINE IS PART OF THE WAY GADAAD
  FINDS LATENCY. AJST* IS USED ON M AND C
  ADDRESSES. FIRST AN OPTIMUM LEVEL
  OPTIM: IS CALCULATED BY QADAAD: AJST* USES
  THIS TO FIND THE CURRENT LEVEL; GIVEN THE
  ACTUAL M OR C ADDRESS.
- A1. WHAT TYPE ADDRESS

  IF THE ASSIGNED ADDRESS D HAS ANY UNDIGITS

  IT IS ASSUMED TO BE IMMEDIATE ACCESS AND

  OPTIM• IS THE ANSWER. EXIT.

  IF THE ASSIGNED ADDRESS D IS ON THE HIGH—

  SPEED BANDS• GO TO A2.

  IF THE ASSIGNED ADDRESS D IS ON THE STANDARD

  PART OF THE DRUM• D IS THE ANSWER. GO TO A3.
- A2. FIGURE DRUM ROLL
  THE ANSWER IS D-OPTIM MODULO 50.
  ADDED TO OPTIM.
- A3. CHECK BAD TIMING.

  IF D COMPARED TO DPTIM INDICATES A WAIT OF

  48 OR 49 ON HSB OR OF 198 OR 199 ON REST OF

  DRUM. THE ERROR FLAG IS PUT ON THE LISTING.

  CODING DETAILS:
  - INPUT IS THE ASSIGNED ADDRESS IN RA AND THE EXIT IN RL. OUTPUT IN RA IS SOME LOCATION ON THE APPROPRIATE DRUM LEVEL. EXIT.

- O. OUTPUT SUBROUTINE.
  THIS ROUTINE IS USED TO TRANSMIT AN ASSEMBLED INSTRUCTION TO THE OUTPUT TAPE.
- O1. TRANSFER
  THE LOCATION IS IN THE FORM RRROSOAAAA WHERE
  RRR ARE RELOCATION DIGITS COPIED FROM THE
  CARD, S IS THE ASSEMBLED SIGN, AND AAAA IS
  THE ASSEMBLED LOCATION. MOVE THE LOCATION
  AND THE ASSEMBLED INSTRUCTION INTO THE
  OUTPUT BUFFER.
- O2. BUFFER FULL

  IF THE BUFFER DOES NOT HAVE SO INSTRUCTIONS.

  EXIT.
- O3. WRITE TAPE WRITE THE BUFFER OUT ON THE OUTPUT TAPE AND CLEAR THE BUFFER AGAIN. EXIT.

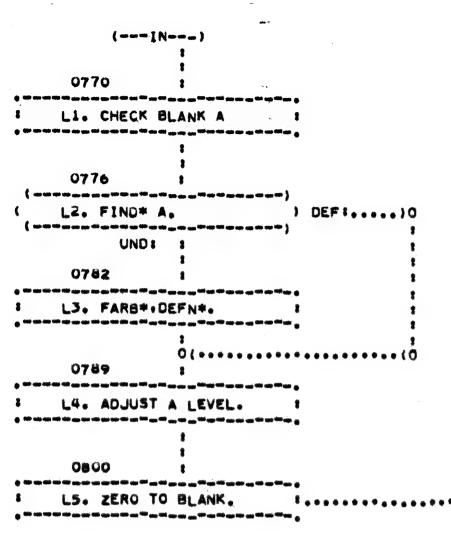
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(--- IN---)
 0618
      OK I
 0623
EZ. TRANSFER
0642
E3. SEPARATE OFF R. H.
0668
E4. MOVE COMMENTS
0690
E5. CONSTRUCT CONSTANTS :
0704
E6. EDIT OF CODE.
0715
E7. INPUT BUFFER EMPTY ) NO: .....)O
0720
EB. SWAP BUFFERS
0753
```

```
EDIT INPUT CARD.
    THIS IS WHERE THE PROCESSING OF EACH CARD
    STARTS. THE PURPOSE IS TO TAKE THE INFOR-
    MATION FROM THE INPUT TAPE AND TRANSFER IT
    TO THE PRINTER AREA READY TO BE PRINTED AND
    ALSO EDIT IT INTO A FORM MORE DIGESTIBLE FOR
    ASSEMBLY PROCESSING.
    THE CARDS ARE REPRESENTED AS 20 WORDS ON
    TAPE. A ZONE WORD IMMEDIATELY PRECEDING ITS
    CORRESPONDING NUMERIC.
    0.1 LINE NUMBER
    2.3 A AR AH AS 1111123330
    4.5 M MR MH AS 1111123330
    6.7 C CR CH AS 1111123330
    B.9 OP IR
                 AS 1112000000
    10-19 REMARKS AS 0111111...
E1. CHECK LINE NO.
    IF THE LINE NUMBER IS NOT EXACTLY I HIGHER
   THAN THE PRECEDING. STOP THE MACHINE AND
   THEN RETURN TO E1.
E2. TRANSFER
    MOVE THE LEFT HALF OF THE CARD TO THE PRINTER
    AREA EDITING IT SLIGHTLY FOR READABILITY.
EJ. SEPARATE OFF R. H.
    EDIT THE A-AR-AH M-MR-MH + C-CR-CH + CHANGING
    THE SYMBOLIC PORTION TO A SINGLE WORD WITH
    THE ZONES AT THE LEFT! ZZZZZNNNNN:
   ACCUMULATE THE R DIGITS. AND PUT THE
   H-FIELD INTO THE FORM OUZZZOONNN.
E4. MOVE COMMENTS
   MOVE THE REMARKS FIELD INTO REGION R.
ES. CONSTRUCT CONSTANTS
   PUT TOGETHER THE M AND C FIELDS INTO
   POSITIVE CONSTANTS MC.MCZ.AND MCN AS THE
   CON NUM ZON CONTROL OPS ARE SUPPOSED TO DO.
E6. EDIT OF CODE.
   PUT THE OPERATION CODE FIELD INTO THE FORM
   88ZZZ88NNN. THIS FORM IS USED BECAUSE IT
   CANNOT CONFLICT WITH ANY SYMBOL IN THE
   SYMBOL TABLE.
   PUT THE IR FIELD INTO THE FORM ZOOODOONOO.
E7. INPUT BUFFER EMPTY
   IF THE CURRENT INPUT BUFFER IS NOT YET
   EMPTY. GO TO E9.
ES. SWAP BUFFERS
    AN INPUT BUFFER HAS ALREADY SEEN LOADED
    WE SWAP INPUT BUFFERS AND INITIATE READING IN
   TO THE EMPTY BUFFER.
E9. OP SRCH*.
   IF OP IS ON GO TO CO.
    IF MASTER SWITCH IS OFF GO TO CT.
   ELSE SEARCH FOR OP-CODE IN THE SYMBOL TABLE.
    IF IT IS A CONTROL OP. GO TO CI.
   IF IT IS A MACHINE SYMBOLIC OP. GO TO THE
   MAIN PROCESSING ROUTINE PL.
   IF IT IS NOT IN THE TABLE, GIVE AN ERROR
   INDICATION AND CHANGE OF TO 57. GO TO PI.
```

C7

Ci

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L. PROCESS A ADDRESS.

THIS ROUTINE IS USED FOR INSTRUCTIONS AND ALSO FOR CONTROL DPS CONINUM. AND ZON.

L1. CHECK BLANK A

IF A IS NOT BLANK BUT THE PRECEDING INSTRUC
TION HAD A BLANK ADDRESS. GIVE AN ERROR
INDICATION.

L2. FIND* A.
FIND A (ROUTINE G). IF IT IS ALREADY DEFINED.
GO TO L4.

L3. FAR8+.DEFN+.

A IS AN UNDEFINED ADDRESS. IF IT IS REGIONAL.
LOCAL FORWARD. OR BLANK THIS IS AN ERROR
CONDITION AND A NEW LOCATION IS ASSEMBLED.
OTHERWISE USE THE LINE NUMBER AS RANDOM DRUM
LEVEL AND GO THRU FAR8+ (ROUTINE F) AND
DEFN+ (ROUTINE D).

L4. ADJUST A LEVEL.

IF THE NEW A ADDRESS MATCHES THE LAST M OR C
ADDRESS. USE THEIR LEVEL. EXCEPT ON M ADDRESS
MATCH WHERE THE C ADDRESS HAD UNDIGITS. IN
THE LATTER CASE THE PREVIOUS C LEVEL IS USED.
OTHERWISE USE THE A ADDRESS AS THE DRUM LEVEL

L5. ZERO TO BLANK.

THE LOCATION 'BLANK' IS SET TO ZERO SINCE AT THIS POINT BLANK ADDRESSES ARE UNDEFINED.

EXIT.

```
(--- | N---)
   0808
   PI. PROCESS A
   0810
   P2. CALCULATE M OPTIM :
0822
   PJ. LITERAL
               .. ) YES1....)0
0827
   P4. FIGURE INDEXING
   0843
   P5. CREATE CONSTANT
   0857
  P6. FIND# M.
                UND: 1
   0861
  P7. FARS+, DEFN+.
   0873
P8. ADJUST M LEVEL
*****
   0880
  P9. CALCULATE C OPTIM :
```

- P. PROCESSING OF INSTRUCTIONS
  PI. PROCESS A
  - EXECUTE THE L ROUTINE.
- P2. CALCULATE M OPTIM

  IF THE IR FIELD IS NON BLANK AND NOT A

  LITERAL. ADD 1 TO A LEVEL FOR INDEX REGISTER

  MODIFICATION TIME. THEN ADD THE APPROPRIATE

  AMOUNT TO GET THE OPTIMUM M ADDRESS LEVEL.

  AS DETERMINED BY THE OPERATION CODE.

  PUT THIS IN OPTIM.
- P3. LITERAL

  IF THE IR FIELD CONTAINS A NUMBER SIGN GO TO P5.
- P4. FIGURE INDEXING
  ADJUST BIT 4 OF THE OPERATION CODE AND
  THE SIGN OF THE RESULT TO GIVE THE INDEX
  REGISTER MODIFICATION DESIRED. GO TO P6.
- PS. CREATE CONSTANT
  GO THRU FARB+ AND AJST+ (ROUTINES F AND A)
  TO DETERMINE AN ADDRESS AND DRUM LEVEL FOR
  THE LITERAL CONSTANT. ASSEMBLE THE POSITIVE
  CONSTANT INTO THIS LOCATION. (ROUTINE O)
  TRANSFERRING THE MR DIGIT INTO AN AR DIGIT
  FOR THE CONSTANT.
  MARK THE C FIELD BLANK AND GO TO P9.
- P6. FIND* M.
  FIND M(ROUTINE Q). IF IT IS ALREADY DEFINED.
  GO TO P8.
- P7. FARB*: DEFN*:

  M IS AN UNDEFINED ADDRESS. IF IT IS

  REGIONAL OR LOCAL PLAIN THIS IS AN ERROR

  CONDITION AND ZERO IS ASSEMBLED. IF IT IS

  BLANK AND IF THE OP-CODE IS ONE THAT IGNORES

  M: * IS ASSEMBLED.

  OTHERWISE FARB* AND DEFN* (ROUTINES F:D) ARE

  USED TO DEFINE M ON THE BASIS OF OPTIM AND

  THE MM-FIELD.
- P8. ADJUST M LEVEL
  THE DRUM LEVEL AT THIS POINT IS NOW DETERMINED BY SUBROUTINE A.
- P9. CALCULATE C OPTIM
  WE BEGIN TO WORK ON THE C ADDRESS NOW.
  THE OP CODE FOUND IN THE SYMBOL TABLE IS IN A
  SPECIAL FORMAT OPTSOOMMCC.
  HERE OP IS THE TWO DIGIT OPERATION CODE.
  S IS 1 FOR IGNORE C. 2 FOR IGNORE M.
  MM AND CC ARE INCREMENTS FOR DETERMINING
  LATENCY. T IS THE TYPE OF LATENCY RULE
  REQUIRED. AS FOLLOWS:
  O: C IS MMCC FIXED LEVEL.
  - 1: C IS MMCC FIXED LEVEL.
  - 21 C IS A+CC
  - 3: SHIFT COMMANDS C IS A+N+CC.

WE NOW CALCULATE OPTIM FOR C. ACCORDING TO THE RULE GIVEN BY T. Plo.FIND* C.

FIND CIRCUTINE Q). IF IT IS ALREADY DEFINED. GO TO P12.

P11.FARB++DEFN+.

C IS AN UNDEFINED ADDRESS. IF IT IS REGIONAL OR LOCAL PLAIN. THIS IS AN ERROR CONDITION AND ZERO IS ASSEMBLED. IF IT IS BLANK AND THE OP-CODE IGNORES C. IT IS MADE EQUAL TO M. OTHERWISE FARB+ AND DEFN* (ROUTINES F.D) ARE ACTIVATED TO DEFINE C ON THE BASIS OF OPTIM. BLANK ADDRESS HERE MAY BE PUT IN BOOM OR BOOF REGION OF CORE.

P12.ADJUST C LEVEL THE DRUM LEVEL AT THIS POINT IS NOW DETERMINED BY SUBROUTINE A.

PIJ. SYNTHESIZE

THE OP. M AND C ARE NOW PUT TOGETHER INTO A TEN-DIGIT INSTRUCTION.

P14.ASSEMBLE USE ROUTINE O TO OUTPUT THE ASSEMBLED LINE OF CODE.

P15.EDIT THE ASSEMBLED INSTRUCTION IS EDITED AND SENT TO THE PRINTER AREA. FOR CONTROL OPERATIONS, HOWEVER, THIS PART IS SET TO BLANKS.

P16.FLOW CHART IF THE CONTROL OPERATION FLO HAS APPEARED EARLIER. GO TO THE FLOW-CHARTING ROUTINE X1.

PI7. PRINT MOVE THE REMARKS TO THE PRINTER AREA FROM REGION R. TAKE ALL ERROR CONDITIONS THAT HAVE BEEN DETECTED AND PUT THEM ON THE LIST-ING. THERE IS ROOM FOR AT MOST 5 ERRORS. INTERROGATE THE PAGE-LINE COUNTER TO SEE IF A SKIP TO NEXT PAGE IS NECESSARY. FINALLY PRINT THE LINE, AND GET READY FOR THE NEXT LINE . GOING TO EL.

(===IN		• •	
1046	1		
CI. BRANCH		CON:	P15
1085 C3. UPDATE /	O(	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	t t v t
C4. RESERVE	CORE		: : : :
C5. DEFINE		t 	•••••• P15
1206 C6. ON OFF			P15
1217 C7. ASSEMBLE		FLO:	

- C. CONTROL OPS.
- CI. BRANCH TO OP IF OF IS BLANK. GO TO P15. FOR CON. NUM. ZON. ALF. GO TO C2. FOR BLA+BLR GO TO C3. FOR COR GO TO C4. FOR EQU GO TO C5. FOR HHH. SET MH INTO HTAG AND GO TO P15. FOR OFF GO TO C6 FOR FLO. SET FLOWCHARTING TAG ON AND GO TO PIS ALSO. FOR PATIPRINT THE AVAILABILITY TABLE AND GO TO E1. FOR TYP. HALT AND INSERT RA IN TYPE OF PROG. GO TO P15. IF AN ERROR OCCURS WHILE PROCESSING ONE OF THE ABOVE . NO ADDITIONAL ACTION TAKES PLACE AND WE GO TO P15. FOR END. GO TO THE ENDING ROUTINE 21.
- C2. PROCESS A
  USE ROUTINE L TO GET THE A ADDRESS.
  THEN USE THE IR FIELD TO INDICATE THE
  SIGN AND GO TO P14 TO ASSEMBLE THE INSTRUCTION.
- C3. UPDATE AVAIL TABLE
  CHECK CH-FIELD FOR INCREMENT. IF BLANK.
  USE 1. ELSE USE CH HOD 100. FIND* M.
  IF UNDEFINED, ERROR. IF C IS BLANK. SET
  C EQUAL TO M. ELSE FIND* C. IF UNDEFINED.
  ERROR. FIND THE STARTING PLACE IN THE
  AVAILABILITY TABLE. AND KEEP RESERVING OR
  UNRESERVING ONE LOCATION AT A TIME
  UNTIL DONE. GO TO C5.
- C4. RESERVE CORE

  IF M IS UNDEFINED. OR THERE ISNT ENOUGH ROOM
  IN CORE THIS IS AN ERROR. OTHERWISE RESERVE
  THE SPACE IN CORE. AND GO TO C5.
- C5. DEFINE ADDRESS FIND A (ROUTINE Q). IF DEFINED: OR IF A PAIR ADDRESS: THE A FIELD IS IN ERROR: ELSE IF NONBLANK DEFINE IT (ROUTINE D). GO TO P15.
- C6. ON OFF
  IF M ADDRESS MATCHES THE TYPE OF PROGRAM. THE
  MASTER SWITCH IS TURNED ON OR OFF. GO TO P15.
- C7. ASSEMBLER OFF
  IF FLOWCHARTING. GD TO E1.
  OTHERWISE PRINT THE WORD OFF ON THE LISTING.
  RETURNING TO P17.

(IN)		,
1262 :	*******	1
( X1. WHAT OK FIELD	) G :	1
	K. 1	1
0(*****	OTHR	1
1305		!
* X2. SCAN FOR #		1 1
1418 :	1 1 1	1
X3. TRANSFER REMARKS	P17	1
0(	1 1 1	1 1
X4. COMPILE O1 OP	1	, 1
0(********		1
x5. COMPILE CONDITION	••••••••	1 1
0(*************************************	* ••••••••••••••••••••••••••••••••••••	3
x6. FINISH PREV SECTION		,
1492 :		<b>1</b>
X7. INITIALIZE	1 · · · · · · · · · · · · · · · · · · ·	1 1

X. EXAMINE REMARKS FIELD
THIS ROUTINE IS ENTERED ON EVERY CARD EXCEPT
PAT AFTER FLO HAS APPEARED.
THE PURPOSE IS TO SEND INFORMATION TO PASS 3
FOR FLOWCHARTING. THIS INFORMATION IS
TRANSMITTED AS A 'MADE-UP-MACHINE' OR MUM
PSEUDOCODE. SPECIFICATIONS OF MUM GIVEN
IN THE PASS 3 LISTING.

- XI. WHAT OK FIELD COLUMNS 32-35 ARE THE DOCUMENTATION KEY OR DK FIELD. AND THEY CONTROL THE FLOWCHARTING OPER ATION. IF THE DK FIELD IS BLANK. GO TO X2. IF IT IS G. BLANK IT OUT AND GO TO PIT. G IS USED TO PUT REMARKS ON THE ASSEMBLY LISTING. IF IT IS CODI. THIS IS THE BEGINNING OF THE WORDS CODING DETAILS. TO X3. IF IT IS TABL. THIS IS THE BEGINNING OF THE WORDS TABLE OF CONTENTS. COMPILE THE DK FIELD AS AN 03 OP IN MUM CODE. THIS SPECIAL CASE IS EXAMINED BY PASS 3. THEN GO TO X3. IF IT IS THE FORM K. THIS INDICATES A NEW SECTION WITH KEY K. GO TO X6. IF IT IS OF THE FORM KN. OR KNN. IT IS A NEW SUBSECTION NAME. CHECK THAT THEY ARE NUM-BERED SEQUENTIALLY AND IF NO ERROR GO TO X4. ANYTHING ELSE IS A CONDITION NAME. TO X5.
- X2. SCAN FOR #
  LOOK THROUGH ALL REMARKS FOR A NUMBER SIGN.
  GATHER TOGETHER THE SHARACTERS FOLLOWING IT.

  UP UNTIL THE NEXT CHARACTER WITH UNDIGITS.
  THE PRINTING CHARACTERS + AND / ARE NOT
  DELIMITERS. THE OTHERS ARE.) THIS FORMS THE
  BRANCH WORD. IF NO CONDITION PRECEDED.

  COMPILE AN 09 OP. IF THE BRANCH WORD REFERS
  TO THIS CHART. PUT M AND C INTO THE LAST
  COMPILES INSTRUCTION. PUT A RECORD FOR THIS
  ENTRY AND N IN THE STOP TABLE AS THE LAST
  BRANCH TO M. OTHERWISE. COMPILE THE BRANCH
  WORD INTO THE MUM CODE.
- X3. TRANSFER REMARKS

  IF THE REMARKS AREN'T ALL BLANK, COPY THEM

  ONTO THE COMMENTS TAPE 7. GO TO P17 UNLESS

  DK FIELD WAS X, IN WHICH CASE WE GO TO

  E1 DTRECTLY.
- X4. COMPILE OI OP COMPILE AN OI OP FOLLOWED BY THE LINE NUMBER. AND TRANSFER THE SUBSECTION NAME. COLUMNS 32-60. TO THE MUM CODE AREA AND THE COMMENTS TAPE ALSO. TO P17.
- X5. COMPILE CONDITION
  BLANK OUT THE DK FIELD. IF COLS 36-40 ARE
  BLANK THIS INDICATES A BRANCH TO THE NEXT
  SECTION SO AN OB OP IS SELECTED. OTHERWISE

THE LAST OP COMPILED IS INCREASED BY 1.

IF IT WAS AN O1. SELECT OP O6 ELSE SELECT
OP O5. FINALLY COMPILE THE SELECTED OP
FOLLOWED BY THE CONDITION NAME. GO TO X2
TO SCAN THE REST OF THE REMARKS.
FINISH PREV SECTION

- X6. FINISH PREV SECTION

  COMPILE 03 OP AND THEN PUT OUT A

  SENTINEL ON THE COMMENTS TAPE. WRITE THE
  STOP TABLE FOLLOWED BY ALL THE MUM CODE
  ON THE CONTROL TAPE 6. THERE IS ROOM FOR
  ABOUT 1500 LINES OF MUM CODE.
- X7. INITIALIZE

  RECORD THE NEW KEY LETTER SKIP TO THE NEXT

  PAGE ON THE ASSEMBLY LISTING.

  WRITE THIS LINE ON THE COMMENTS TAPE AND

  RETURN TO P17.

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		••	
(	IN)		
1546	0(*****		10
B1. CHE	CK INPUT TAPE	E ) HOLD	10
1950	0: :		
B2. REA	BLOCK		
1564			
83. INI	TIALIZE	f	
1604	: :		
# 84. OUT	PUT GETS LOAD	DER	

BEGINNING OF ASSEMBLY BI. CHECK INPUT TAPE IF INPUT TAPE ISNT READY . HALT AND RETURN TO 81. B2. READ BLOCK READ IN FIRST BLOCK INTO INPUT BUFFER UNLOAD FIRST TAPE BUFFER AND INITIATE READING SECOND BLOCK. THE INPUT TAPE IS ALWAYS READING ONE BLOCK AHEAD. THERE MUST THEREFORE BE AN EXTRA HASH BLOCK AFTER THE ENDING SENTINEL. EACH TAPE BLOCK CONTAINS 10 LINES. 83. INITIALIZE SET LOWER CORE AVAILABLE SET BLANK ADDRESS UNDEFINED SET FLO MODE OFF SET LINE COUNTERS TO ZERO SET FORWARD AND BACKWARD LOCAL TABLES (I AND J TABLES) TO UNDEFINED. SET DRUM STATUS SO THAT 0001 TO 4999 ARE AVAILABLE SET HHH BLANK. 84. OUTPUT GETS LOADER WRITE LOADING ROUTINE ON OUTPUT TAPE. NEITHER TAPE IS EVER REWOUND BY THE PROGRAM.

WE ARE NOW READY TO TAKE OFF. GOING TO EL.

EI

Z. ENDING OF ASSEMBLY.
Z1. FIND* M.
FIND M. IF UNDEFINED. HALT AND THE OPERATOR
IS SUPPOSED TO FILL RA WITH THE RIGHT THINGS

IS SUPPOSED TO FILL RA WITH THE RIGHT THING.

Z2. ASSEMBLE TRANSFER

ASSEMBLE HLT HHHH MLOC INTO LOCATION 0105

WHICH WILL CAUSE THE LOADING TO STOP WITH

THIS INSTRUCTION.

Z3. CLEAN OUTPUT BUFFER.

WRITE THE LAST BUFFER LOAD ON THE OUTPUT
TAPE. PRINT THE END LINE AND THE ERROR
INDICATION ON THIS LINE IS BLANK IF AND ONLY
IF NO ERRORS OCCURRED DURING ASSEMBLY.

Z4. EJECT PAPER
SKIP THE PRINTER PAPER ABOUT 2 PAGES AHEAD.
Z5. FINISH FLO

FINISH PROCESSING THE LAST SECTION OF FLOW-CHART. IF ANY (SEE X6. EXCEPT COMPILE 04 INSTEAD OF 03 OP).

Z6. HALT THE COMPUTER. PASS 2 IS FINISHED.

Z7. FLOWCHARTING IF NOT FLOWCHARTING. LOAD THE ASSEMBLED PROGRAM. IF FLOWCHARTING.GO ON TO PASS3.

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